DEC. COTTON 1940

SERVING THE

Textile Industries

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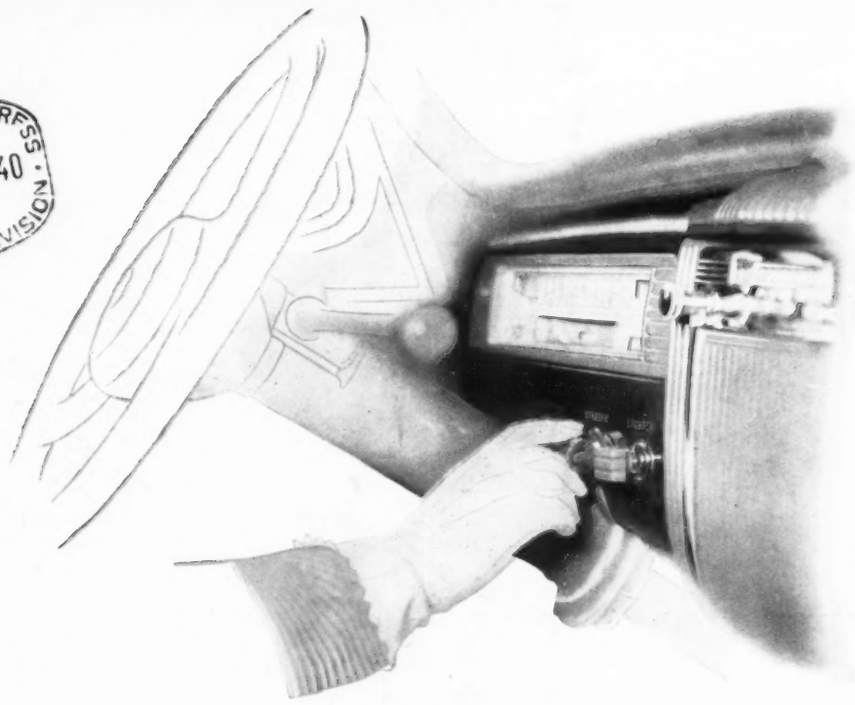
PERIODICAL DIVISION



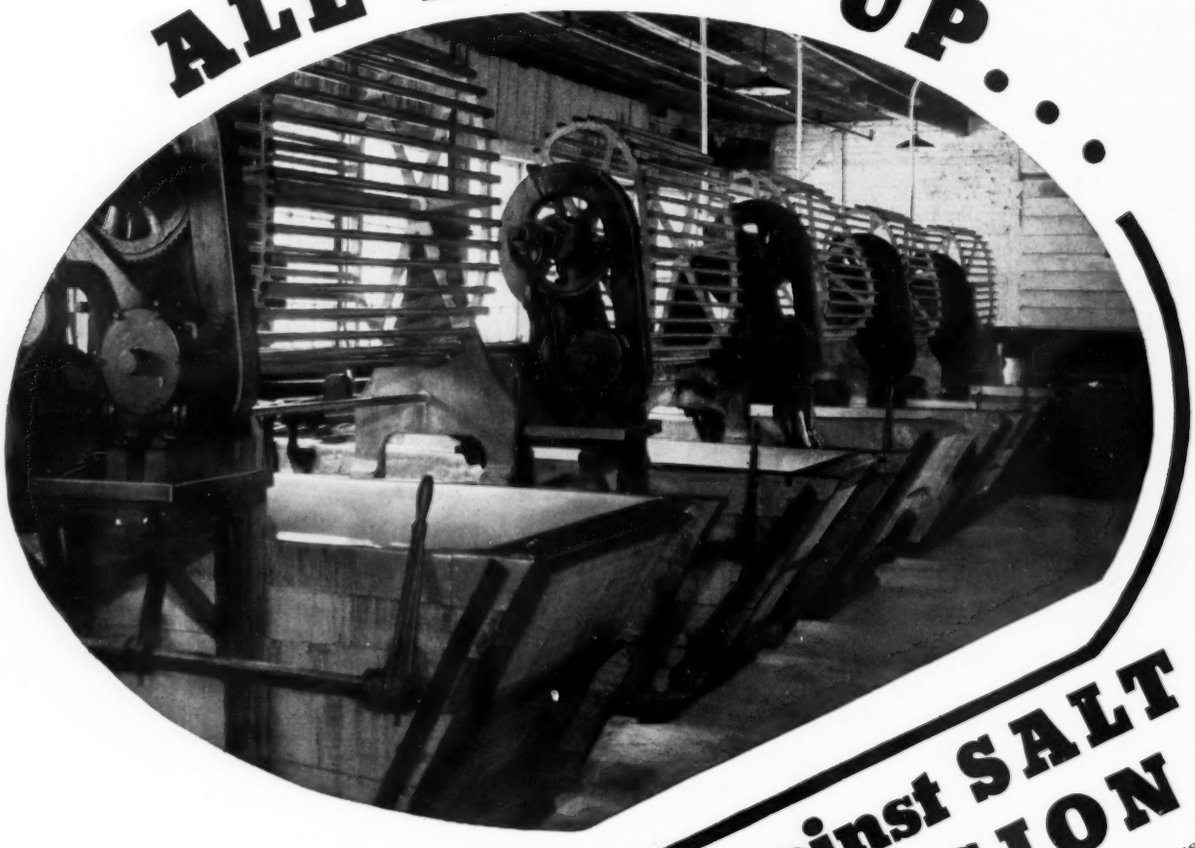
SELF-STARTING ON THE ROAD TO SALES

The old crank handle is out of date. Modern cars rely almost wholly on self-starters. And that's the way it is with all modern merchandise. • Modern merchandise, in order to move fast, must have qualities that will give it a self-start. It must have appeals that will overcome buying inertia. In the case of knit goods, they must have lustre that is kind to the eye, wearability that is kind to the pocketbook, perspiration absorption and evaporation that is kind to the skin. • These qualities, knit into every garment with Dixie durene, are translated into self-starting appeals that move merchandise off the shelves. • Don't worry with merchandise that needs the old crank handle treatment. Feature garments knit with *Dixie—durene at its best*, and get a self-starter in every line

Dixie MERCERIZING COMPANY, CHATTANOOGA, TENN.

DIXIE DURENE . . . A PRODUCT OF CONTROLLED MANUFACTURE

ALL LINED UP . . .



. . . against SALT CORROSION

What is the most common cause of corrosion in dyehouse equipment? Just the *common* salt you put in your dye tanks. So when you put salt in, make sure you put it into Monel. • Against Monel, salt and brine are well-nigh powerless. This strong, tough metal resists their destructive attack. It *cannot* rust, and it stands off corrosion for years. That is why you find Monel in food plants, in sea-going ships, from beginning to end of salt refineries . . . *and every place else where corrosion by salt is severe.* • Because Monel is also wear resistant and long-lived . . . and is resistant to corrosion by dyehouse liquors . . . it assures years of trouble-free dyeing at minimum cost. Write for further information on Monel for dyehouse equipment. Address:

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street New York, N. Y.

MONEL

Upper photo shows partial view of eight Monel-lined dye tanks in use in an eastern plant. Rolls, reels, baffle plates, heating units and tie rods are also made of Monel. Lower photo shows close-up of Monel lining after more than ten years' use.

"Monel" is a registered trade-mark of The International Nickel Company, Inc., which is applied to a nickel alloy containing approximately two-thirds nickel and one-third copper.

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Subscription Rates, United States and Possessions, $1.00 for one year; $2.00 for three years; Canada, $1.50 per year; Foreign Countries, $2.00 per year.
Entered as second-class matter at the Post Office, Dalton, Ga., under the Act of March 3, 1879.

Preparedness

Preparedness — To Make Ready for the Future. Our Nation is Spending Billions for it, and most of us would Feel Safer if we had Started the Spending Sooner.

Modern Industry believes in Preparedness. The Automobile Companies begin Work on Newer Models as soon as the Year's New Model has been put on the Market. And even while Business is Still good they Halt Production to put in Machinery to Build Next Year's Cars.

The Textile Industry is an Old Industry and has many traditions to discard. Young Men in some mills and Progressive Older Men in others believe in Preparedness. They know that Looms of a Few Years Ago must be replaced by Looms of Today whenever Today's Looms are Better.

High Speed X Series Looms Are Better Looms They Are At Least 20% Faster They Have Been Proved Progressive Mills Are Buying Them

Many Who Hesitate today say: "The Cotton business is too good to curtail for the installation of Even a Few New Looms." "The Rayon business is slowing up. I'm not Sure of the Future, I can't afford to Buy Looms."

Learn from the Automobile Builders ❖ They Prepare for Good Business ❖ They Get Good Business ❖ They Make Money on it

DRAPER CORPORATION

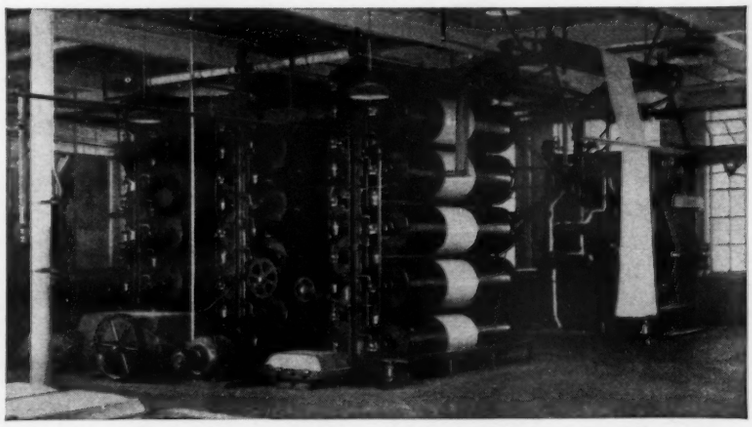
Atlanta Georgia Hopedale Massachusetts Spartanburg S C

BIG SUCCESS *with* *stock conditioning system*

FOR YOUR SPINDLES

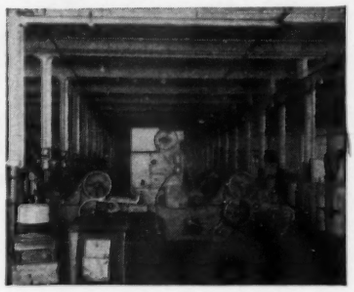
● A spindle oil which stubbornly resists oxidation, sludge formation, "fogging"... *Texaco Spindura Oil.* You get better lubrication with less lubricant, avoid vibration and lagging, produce more uniform yarn. (Write for this *Texaco Spindura* Leaflet.)

TEXACO SPINDURA



(Above) SANFORIZER and dryer built by Textile Finishing Machine Co., and lubricated with *Texaco Starfak.*

(Below) PICKER ROOM at Gainesville, Ga., Pacolet Manufacturing Company mill. 14 S-L One-Process Pickers equipped with *Texaco Texspray.*



AFTER abandoning trials with cotton conditioning of another type, the Pacolet Manufacturing Company is now enjoying the money-saving benefits of the *Texaco Texspray System.*

Applied at the pickers, this system keeps the mill practically free from dust and fly, assures healthier working conditions. Static is lessened and breaking of long fibres greatly reduced.

Texaco Lubricants keep bearing wear, stock spoilage, power and lubrication costs at a minimum.

Trained lubrication engineers will gladly cooperate in making savings with Texaco Lubricants in your mill. Phone the nearest of more than 2300 Texaco warehousing points in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York, N. Y.

FIBRE CONDITIONING latest 32-page booklet explaining the *Texaco Texspray System.* Yours for the asking.

TEXACO DEALERS INVITE YOU TO ENJOY

FRED ALLEN in a full-hour program every Wednesday night, CBS, 9:00 E.S.T., 8:00 C.S.T., 10:00 M.S.T., 9:00 P.S.T.

METROPOLITAN OPERA every Saturday afternoon, NBC. See local newspaper for time and station.

TEXACO
LUBRICANTS FOR TEXTILE MILLS

It is not futile that we so live

At Christmas, for the reassuring moment of that fleeting season, senses awaken to the vivid realization that men *are* fellowmen ∞ If we in America are a people of great good fortune it is due to our most characteristic manifestation...not only to "live and let live" but also to help the other fellow to live.

We who are dedicated to chemistry feel that this beneficent science has helped to make our country livable . . . to keep our ideals inviolate ∞ We voice the sentiment of America when we say, "May the Christmas spirit reassert itself world wide, bringing peace on Earth and good will to men . . . *all* men."

WARNER
CHEMICAL COMPANY

Division of **WESTVACO CHLORINE PRODUCTS CORP. • CHRYSLER BUILDING,** *New York City*

Uncle Sam...

PREPARED TO PRODUCE

WITH TAYLOR'S HELP

FACTORIES hum from coast to coast. Plant lights shine out all through the night. Sounds and sights of this nation preparing to protect our peace, our freedom, our good American way of life.

American Industry has buckled down to its biggest production job since a similar time of need, twenty-odd years ago, and is doing a grand job of it. More clothing, more food, more power, more petroleum *are* already being produced. From eastern to western oceans, vital industrial processes have been stepped up amazingly.

And they have been stepped up confidently, with the absolute assurance that swiftly increased quantity will not mean decreased quality.

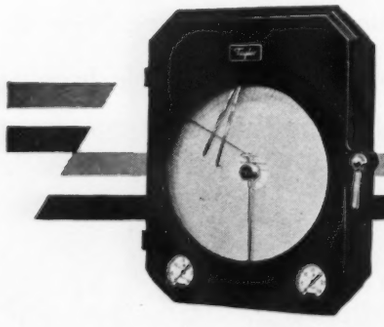
That's where Taylor comes in. Taylor Instruments are helping Industry speed up *safe* production. Taylor Instruments are helping Industry produce to more rigid specifications easily, fully, and economically.

Modern plants use Taylor Instruments—like the great new Taylor Fulscope Controller (the unique five-in-one controller!)—to help make plant operations—manufacturing, processing, or whatever they may be—*automatically* exact, *automatically* foolproof, *automatically* faster and more efficient.

Even in crisis, American Industry *can* be confident. Nowhere else in the world are finer instruments more completely guarding vitally necessary operations.

Taylor is glad and grateful for this vast, unique opportunity to help America "Be Prepared." Uncle Sam *will* be ready. The United States *is* prepared to produce. We *are* producing. Our production is our defense.

Taylor Instrument Companies, Rochester, N. Y. Plant also in Toronto, Canada.



The new
Taylor Fulscope Controller
helping Industry's
huge preparedness program

BE PREPARED WITH **Taylor**

Indicating / Recording · Controlling

TEMPERATURE, PRESSURE, FLOW
***and* LEVEL INSTRUMENTS**

NEW

THE MOST IMPORTANT DEVELOPMENT IN TEXTILE MACHINERY FOR YEARS IS NOW OFFERED

THE WHITIN-SCHWEITER AUTOMATIC FILLING BOBBIN WINDER*

THE FIRST FULLY AUTOMATIC, INDEPENDENT SPINDLE FILLING BOBBIN WINDER THAT HAS BEEN MADE AVAILABLE

It is suitable for cotton, woolen, worsted, linen, rayon, silk or other textile materials.

This machine will handle wound cones, tubes, dyehouse packages, roving, spinning or twister bobbins, as desired.

Speeds are from two to three times those used on non-automatic filling winders, with a very large increase in production.

The independent spindle gives higher efficiency, eliminates partially wound bobbins.

Magazine creeling saves machine stoppages, production losses.

Winding costs are greatly reduced. Better yarn preparation.

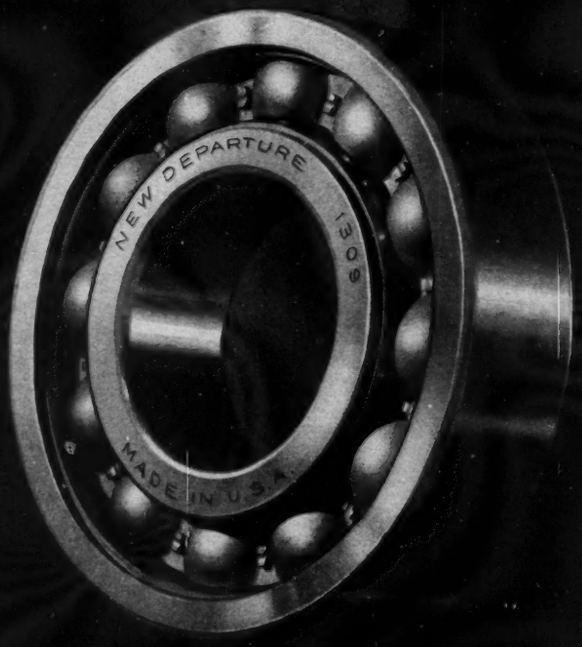
*(MANUFACTURED UNDER EXCLUSIVE LICENSE BY WHITIN MACHINE WORKS)

WHITIN MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS, U. S. A.

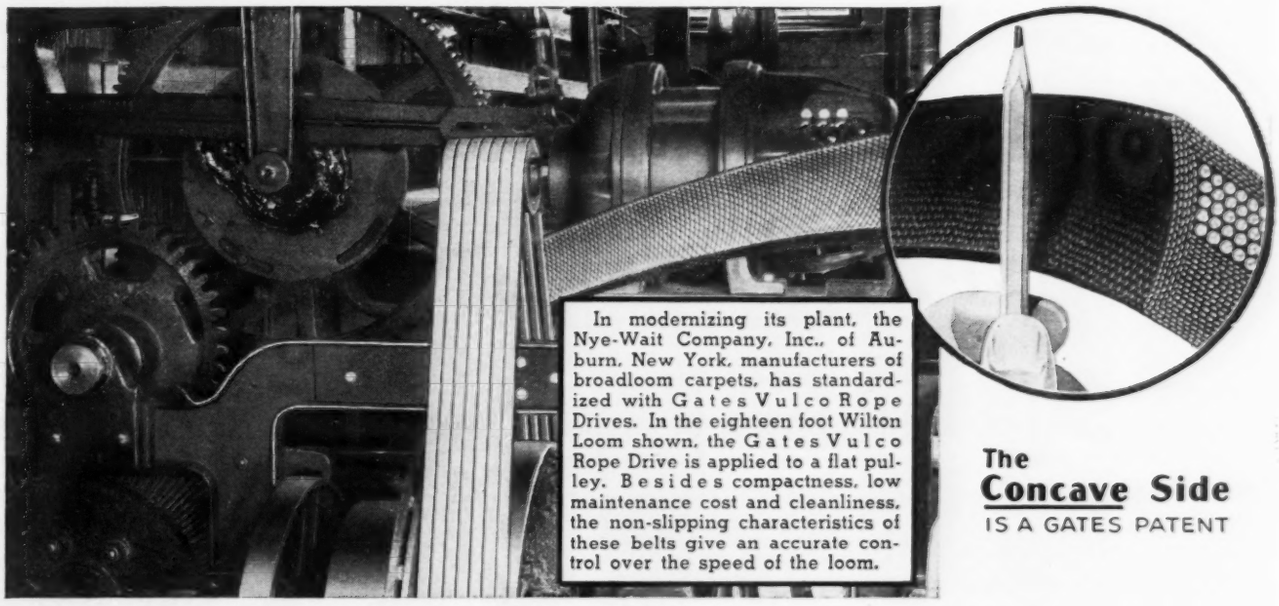
CHARLOTTE, N. C. **ATLANTA, GA.**

RESOURCES *for* RESEARCH



Improvements in the Forged Steel Ball Bearing result from expensive and painstaking research in laboratories, on proving grounds and in the field. No wonder New Departure has pioneered so many new departures in ball bearings! New Departure, Division of General Motors, Bristol, Connecticut.

NEW DEPARTURE
THE FORGED STEEL BEARING
Nothing Rolls Like a Ball



In modernizing its plant, the Nye-Wait Company, Inc., of Auburn, New York, manufacturers of broadloom carpets, has standardized with Gates Vulco Rope Drives. In the eighteen foot Wilton Loom shown, the Gates Vulco Rope Drive is applied to a flat pulley. Besides compactness, low maintenance cost and cleanliness, the non-slipping characteristics of these belts give an accurate control over the speed of the loom.

The **Concave** Side
IS A GATES PATENT

In Two Minutes *This Test* Will Show You a big SAVING in V-Belts and Power

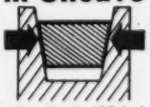
If you are interested in low operating costs, make this simple test:

Take *any* V-belt and have someone bend it as it bends in going around a pulley. (See photo above.) As the belt bends, grip its sidewalls between your finger and thumb. You will feel the belt's sides bulge outward.

This bulging gives a straight-sided belt the shape shown in figure 1, on the right . Clearly, this shape does not fit the sheave groove.

But when you bend a belt that is built with the patented Concave side, you find that the sides become perfectly straight—as shown in figure 2. Here are the advantages: This shape exactly fits the sheave groove; this means uniform sidewall wear—longer life! Also, the full side of the belt is gripping the pulley; therefore less slippage and this saves belts as well as power.

V-Belt in Sheave



It's the *sides* of a V-Belt that do all the *gripping* and get all the *wear*. That's why longer life for the *sides* means *longer life for the belt.*

The Gates Vulco Rope is the only V-belt built with the Patented concave side.

What Happens When a V-Belt Bends

THE GATES RUBBER COMPANY

Engineering Offices and Stocks in All Large Industrial Centers

GATES VULCO ROPE DRIVES

CHICAGO, ILL., 1524 South Western Ave. HOBOKEN, N. J., Terminal Building BIRMINGHAM, ALA., 1631 1st Ave., S. LOS ANGELES, CAL., 2240 E. Wash. Blvd.

DENVER, COLO., 999 South Broadway DALLAS, TEX., 2213 Griffin Street PORTLAND, ORE., 333 N. W. 5th Ave. SAN FRANCISCO, CAL., 2700 16th St.

ELECTROLYTIC HYDROGEN PEROXIDE

Becco

for highest QUALITY... lowest COSTS... least SECONDS and REJECTS ... latest and most practical BLEACHING PROCEDURES in the peroxide bleaching of cotton, wool, silk, rayon and specialties. You are invited to join the select list of firms which are profiting with **BECCO** Hydrogen Peroxide and **BECCO** Technical Service. Write Becco Sales Corporation, Buffalo, N.Y.; Boston, New York City, Philadelphia, Chicago and Charlotte.

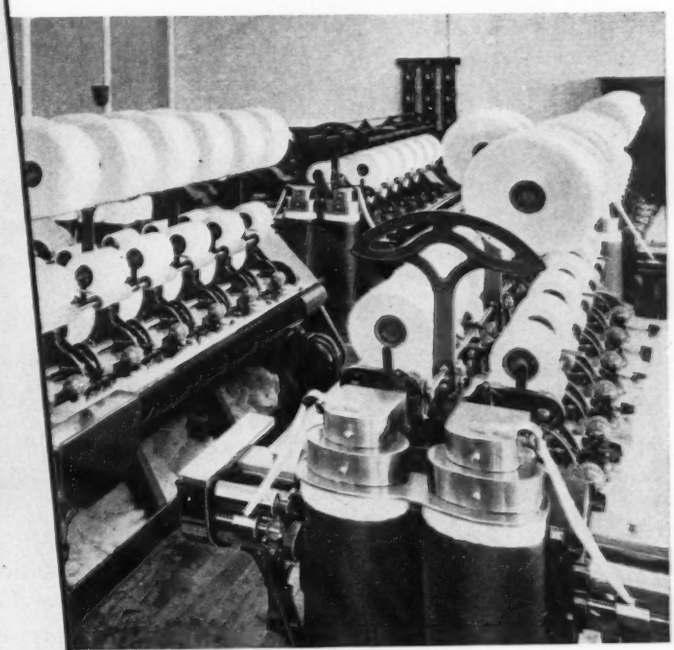
plus BECCO TECHNICAL SERVICE

IN THE NEWS

an advertisement from
The Saturday Evening Post, September 14, 1940

EVENING POST
NOW
Combed Sheet Luxury
FOR ONLY A LITTLE MORE THAN ORDINARY SHEETS
INDIAN MAIDEN
Combed PERCALE SHEETS $1.75
72 X 108
Last year Nashua gave you Puttey —the luxury blanket, at the economy price of $5.95 that became an overnight sensation and goes on breaking records. Now Nashua introduces Puttey's mate, Indian Maiden sheets, a Combed percale that offers you new, greater sheet luxury for only a little more than ordinary sheets.
Never before has a Combed percale been regularly offered at the popular price of $1.75! Combing removes the short fibres . . . leaves only the fine, long fibres which give Indian Maiden that lovely, petal-smooth texture you usually find only in the higher-priced sheets. They're so light you'll find substantial savings in your laundry bill, so strong, with their wide tape selvage, that they give you extra years of service. Truly worthy bed companions of Puttey blankets. Featured now . . . in the best department stores from coast to coast. NASHUA MFG. CO., Nashua, N. H.
Nashua

..on SACO-LOWELL Combers



DIFFERENT IN PRINCIPLE
NEW IN DESIGN
29 Distinctive Features
17 Exclusive Features

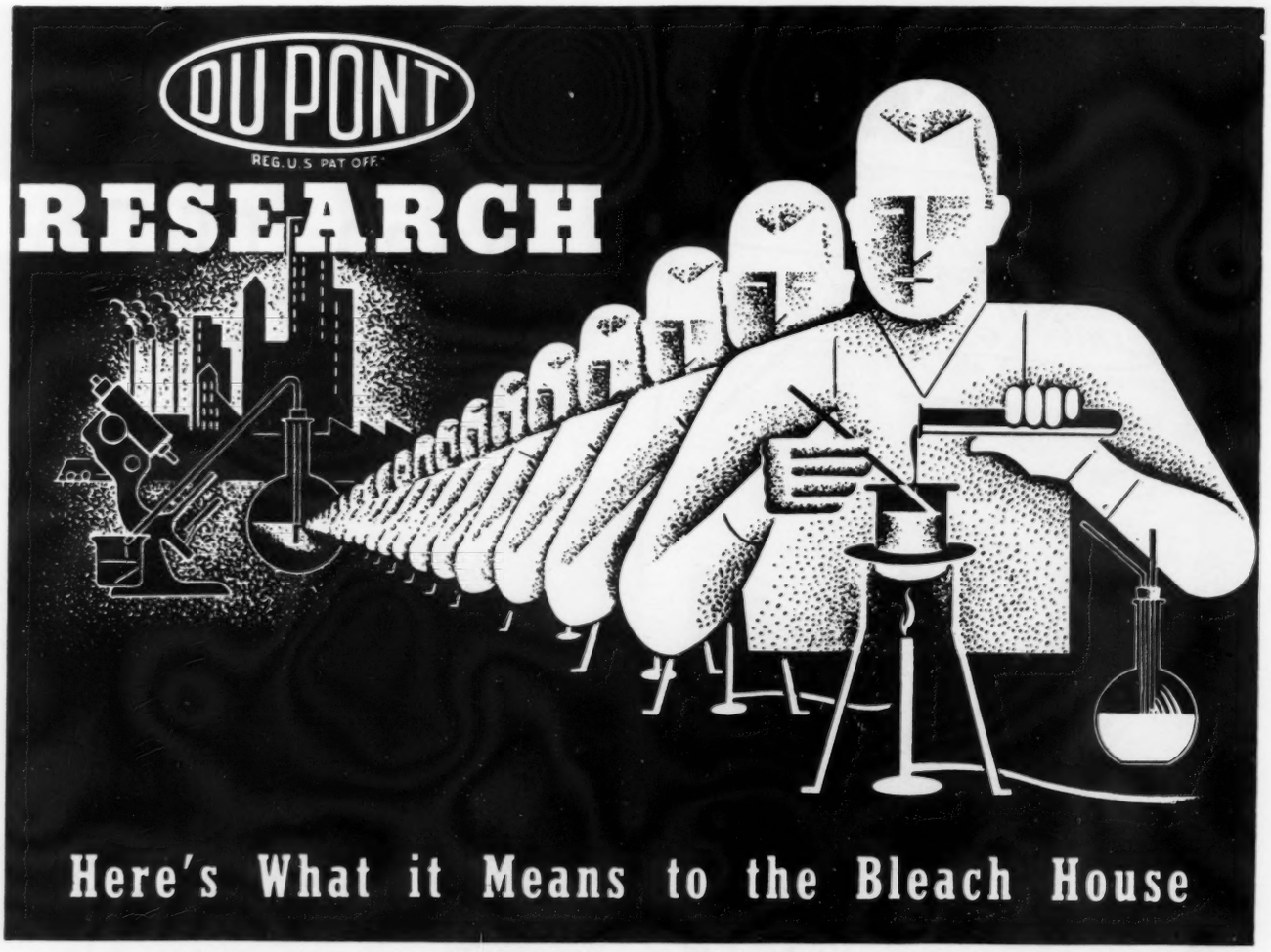
As Nashua says: "Indian Maiden Percale Sheets have that lovely petal-smooth texture usually found only in higher-priced sheets . . . They're so light . . . so smooth . . . they give extra years of service." Of course, Saco-Lowell Combers are used in making Indian Maiden Percale Sheets.

The Saco-Lowell Comber in much more than just another comber. It is basically different in principle, design, and most particularly, in its ability to combine improved quality with greatly increased production.

The design features which distinguish the Saco-Lowell Comber from all others and make possible the new standards of performance, are fully described in a new bulletin just off the press. Write for your copy.

SACO-LOWELL SHOPS

60 Batterymarch, Boston, Massachusetts
Charlotte, N. C. Greenville, S. C. Atlanta, Ga.



An outstanding characteristic of the du Pont Company is the emphasis it places on a large research organization. In the field of Peroxide Bleaching du Pont has been actively engaged since 1896. In these 44 years it has gained a wealth of bleaching information—the result of extensive work in its adequately equipped research laboratories amplified and supplemented by experience attained in the field.

A great many contributions to bleach house practice have come from this study and research, from pioneering with new processes, from modifying routine processes to keep pace with bleaching demands created by new fibres and fabrics.

Constant changes are taking place in textiles—and they will continue. But du Pont, with its wide experience in the textile industry and its broad research facilities will meet the changing demands.

DU PONT
REG. U. S. PAT. OFF.

PEROXIDES
ALBONE*
Du Pont Hydrogen Peroxide
100 vol. Electrolytic
DFF† SOLOZONE*
(Du Pont Sodium Peroxide, dustless and free flowing)
SODIUM PERBORATE
*Reg. U. S. Pat. Off.
†Trade Mark

"Cavalcade of America"—back on the air—every Wednesday 7:30 P.M., E.S.T. Nation-wide Network

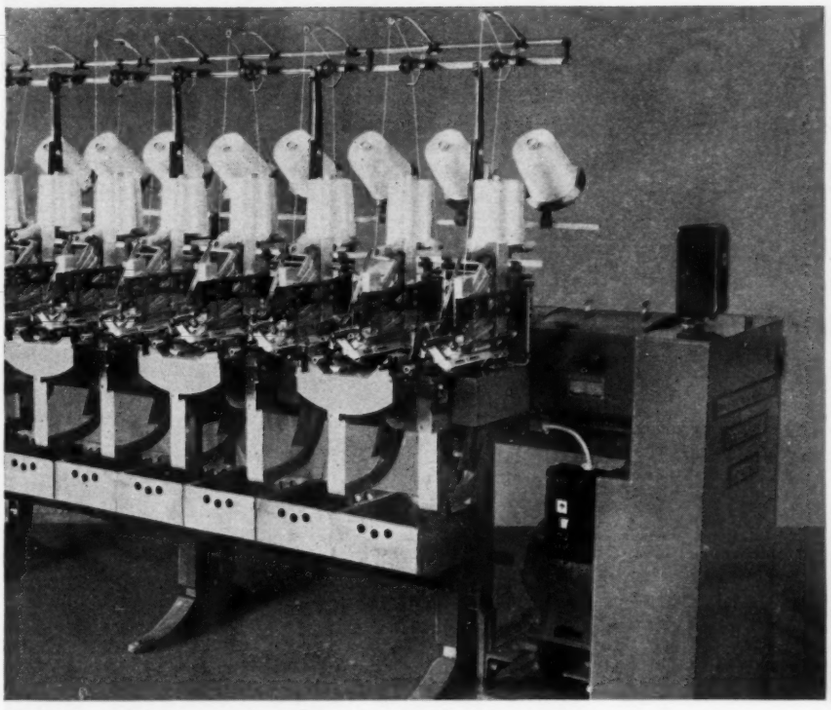
DU PONT
REG. U. S. PAT. OFF.

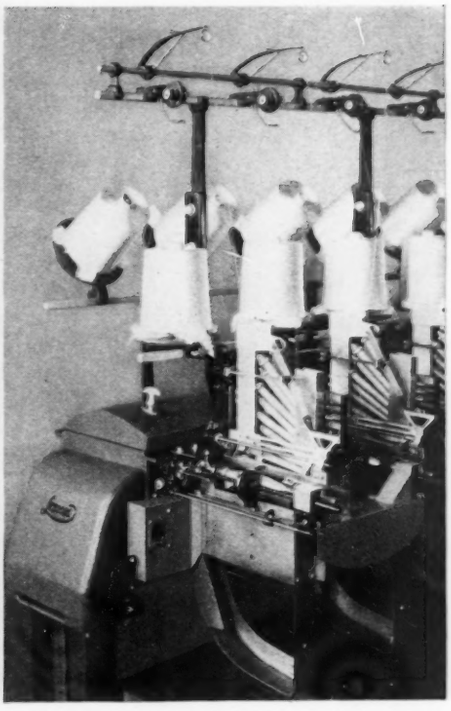
The R. & H. Chemicals Department
E. I. DU PONT DE NEMOURS & COMPANY (INC.)
Wilmington, Delaware
District Sales Offices: Baltimore, Boston, Charlotte, Chicago, Cleveland, Kansas City, Newark, New York, Philadelphia, Pittsburgh, San Francisco

Universal Winding Company

ANNOUNCES A

New Automatic Bobbin Winder

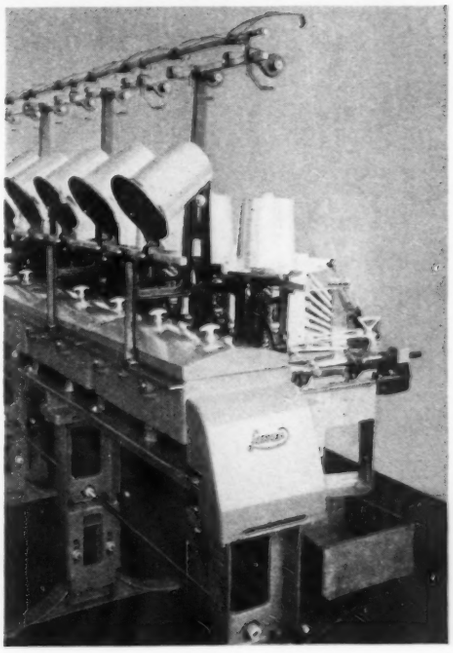




The Universal Automatic Bobbin Winder is a high-speed machine which discharges full bobbins and starts winding new bobbins automatically.

All bobbins can be wound to correct specifications for any type of automatic loom.

Mill tests have proven this winder to be successful on all textile fibres. We are proceeding with a schedule that will enable us to make shipments during the first quarter of 1941.

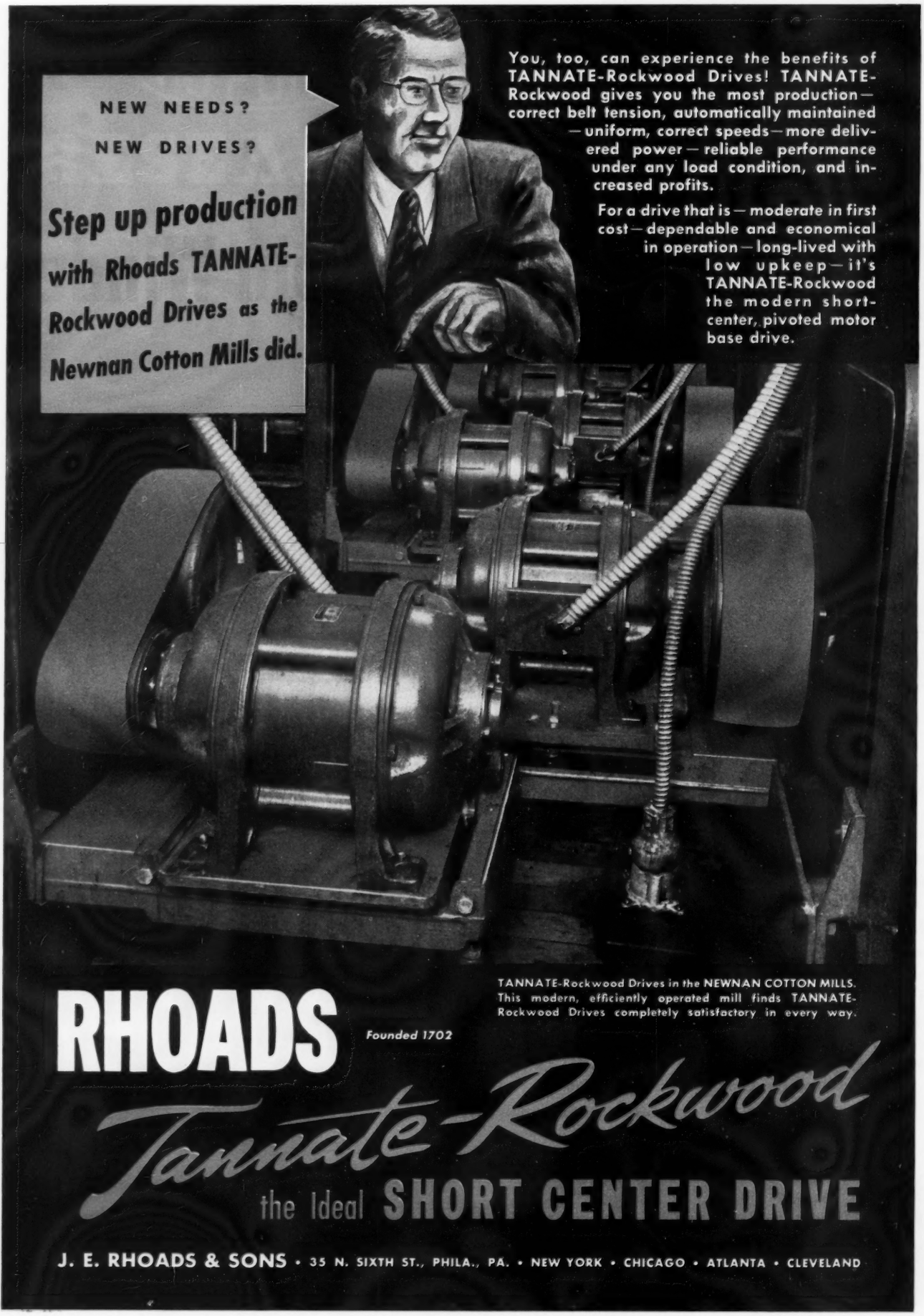


LEESONA

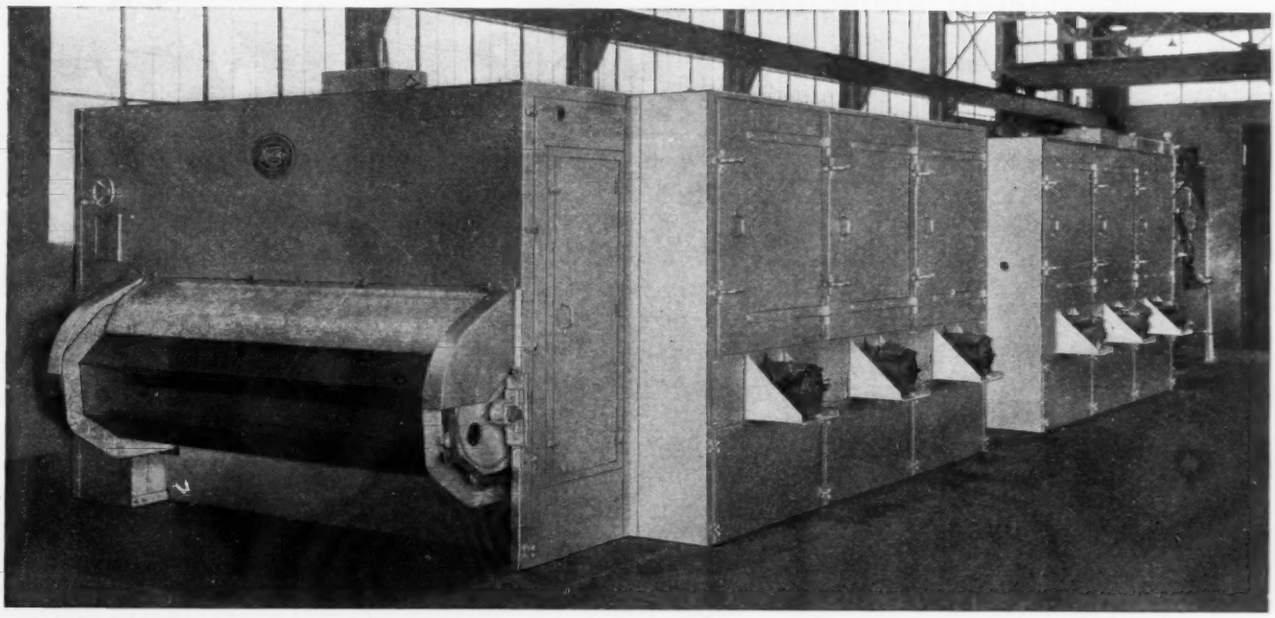
*Reg. U. S. Pat. Off.

UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA


NEW NEEDS?
NEW DRIVES?
Step up production with Rhoads TANNATE-Rockwood Drives as the Newnan Cotton Mills did.
You, too, can experience the benefits of TANNATE-Rockwood Drives! TANNATE-Rockwood gives you the most production—correct belt tension, automatically maintained—uniform, correct speeds—more delivered power—reliable performance under any load condition, and increased profits.
For a drive that is—moderate in first cost—dependable and economical in operation—long-lived with low upkeep—it's TANNATE-Rockwood the modern short-center, pivoted motor base drive.
TANNATE-Rockwood Drives in the NEWNAN COTTON MILLS. This modern, efficiently operated mill finds TANNATE-Rockwood Drives completely satisfactory in every way.
RHOADS
Founded 1702
Tannate-Rockwood
the Ideal SHORT CENTER DRIVE
J. E. RHOADS & SONS • 35 N. SIXTH ST., PHILA., PA. • NEW YORK • CHICAGO • ATLANTA • CLEVELAND

HOW TO DRY RAW STOCK



UNIFORMLY AND AT *LOW COST* FOR STEAM, POWER AND LABOR

Pictured above is the latest Hunter Stock Drying Unit. It is unlike any other available Stock Dryer.

It is duplex because it has fans on *both* sides. Equally important, it affords a means of turning over your material within the Dryer completely by unique air streams. Thus, you gain not only high production, but uniform drying.

Every fan is direct connected to its own motor; There are no belts or pulleys. Extended surface heaters are used throughout, and all heaters are screened against flying lint. It is equipped with special steel plate apron with automatic lubrication. It is complete with traveling. wool guards and baffles that accurately direct the air streams. There is a size for every requirement. For complete details and actual installation data, write to

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS MASS.

Western Representative
E. G. PAULES
343 Bendix Building
Los Angeles, California

JAMES HUNTER MACHINE COMPANY

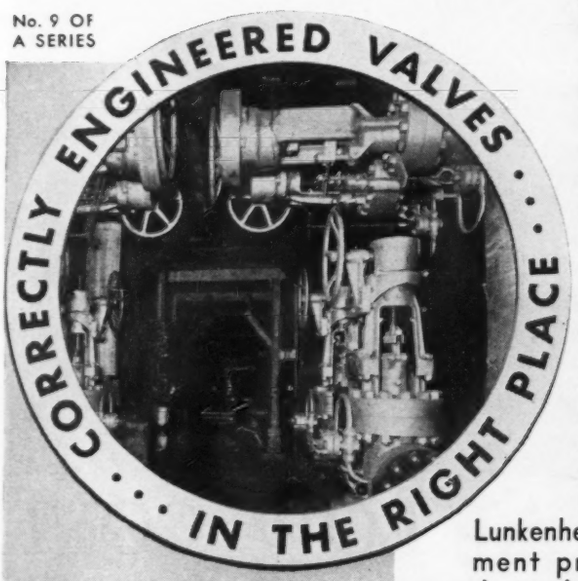
SINCE 1847 NORTH ADAMS, MASSACHUSETTS

Reflecting Continual Improvement and Refinement, Including Developments of Exceptional Interest During 1940 . . .

LUNKENHEIMER *STEEL VALVES*

. . . ARE "CORRECTLY ENGINEERED" FOR MAXIMUM ECONOMY ON THE JOB!

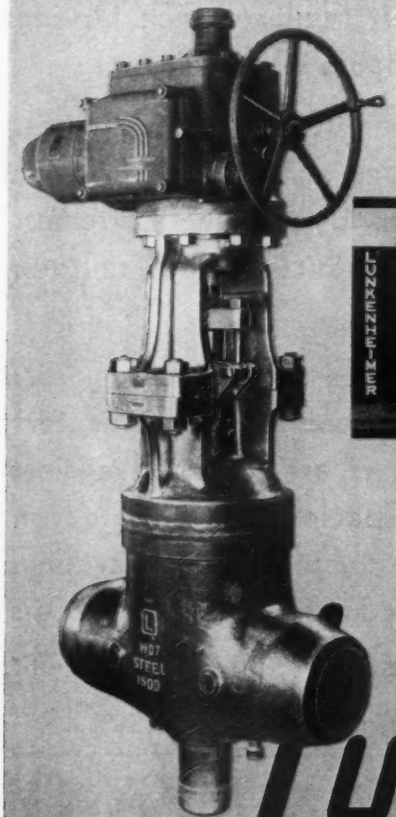
No. 9 OF A SERIES



● Due to the peculiarities of their service requirements, involving as they do unusually high temperatures and pressures, the business of designing and producing steel valves becomes a highly specialized one . . . one which requires constant research, development, and engineering experience. In this particular field, Lunkenheimer has taken an important lead in improving and refining both the design and materials used . . . the two special steel gate valve patterns illustrated being truly representative of this "engineered superiority."

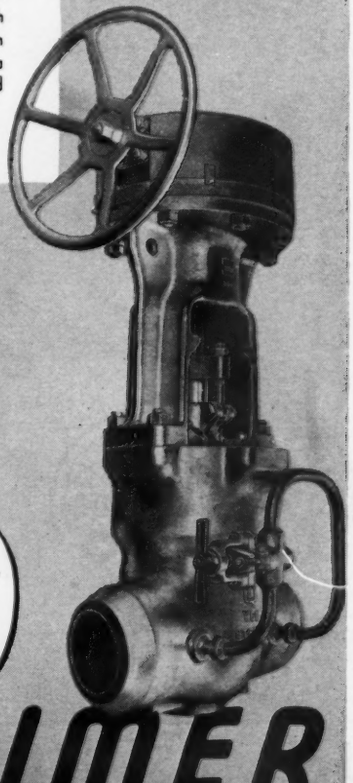
Lunkenheimer Steel valves are available in a wide range of types and sizes and in a variety of body as well as trim materials to suit all prevailing service requirements. And, as new conditions develop, Lunkenheimer's constant program of reseach and improvement promises the surest, most dependable solution to whatever new problems are encountered.

LUNKENHEIMER 1500 LB. S. P. STEEL GATE VALVE with Welded Bonnet for Burlington and Marion Generating Stations—Public Service Electric & Gas Company.



SEEING IS BELIEVING! We welcome the unusual opportunity afforded by the Power Show in New York to describe Lunkenheimer products in detail and point out visible points of superiority which assure better, longer, lower cost service. In addition to the two big steel valves illustrated, you'll find a variety of bronze and iron body bronze mounted valves for your careful inspection.

LUNKENHEIMER 2500 LB. S. P. "TWIN BRANCH" STEEL GATE VALVE, Seal Welded Bonnet with Breech Lock (Patent Applied For) for Twin Branch Generating Station — Indiana & Michigan Electric Co.



Send for copy of our new Catalog No. 78. We will include our handy "Guide," which makes selection easy by grouping valves, boiler mountings, and lubricating devices according to pressures, temperatures, and service applications.

●

ESTABLISHED 1862

THE LUNKENHEIMER CO.

"QUALITY"

CINCINNATI, OHIO. U. S. A.

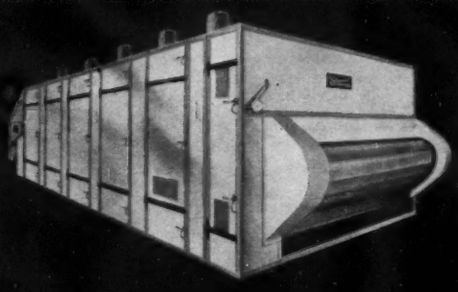
NEW YORK CHICAGO
BOSTON PHILADELPHIA

EXPORT DEPT 318-322 HUDSON ST., NEW YORK

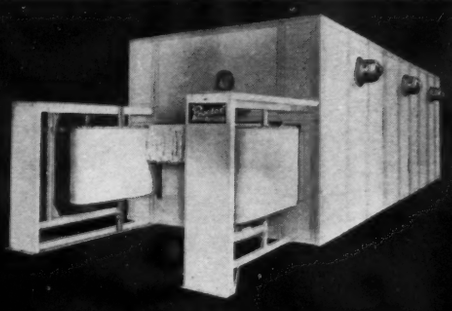
LUNKENHEIMER

New PROCTOR DRYERS

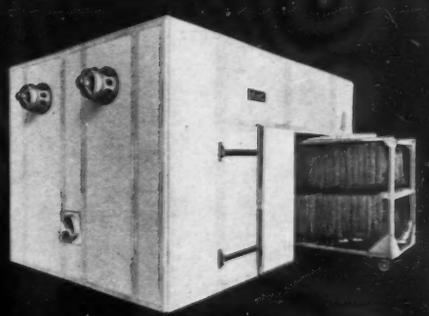
MODERN SIMPLIFIED DESIGN . . . SPEEDY PRODUCTION . . . EXTREME COMPACTNESS . . . HIGHEST QUALITY RESULTS . . . UNVARYING UNIFORMITY . . . IMPORTANT ALL-AROUND SAVINGS



Speedy, Compact Dryer for Cotton and Wool Raw Stock, Rayon Staple Fibre, Linters, Acetates, etc.

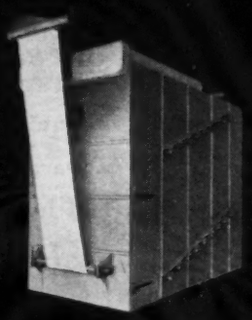


Skein Yarn Dryer with Traveling Skein Protector. High Capacity, Perfectly Uniform Drying at Low Cost.

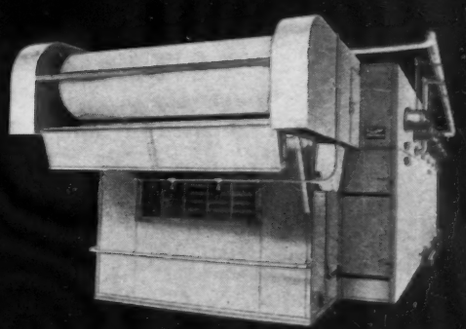


Truck Dryer for Skein Dyed Yarn. Highly Efficient Air Circulation, Direct Motor Drives, Controlled Uniformity.

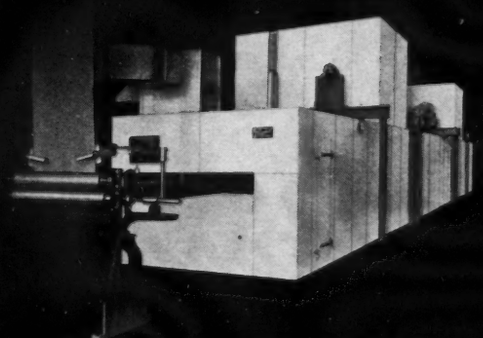
Dryer for Package Dyed Yarn. Assures Uniformly Perfect Drying. Is Speedy, Compact and Very Economical.



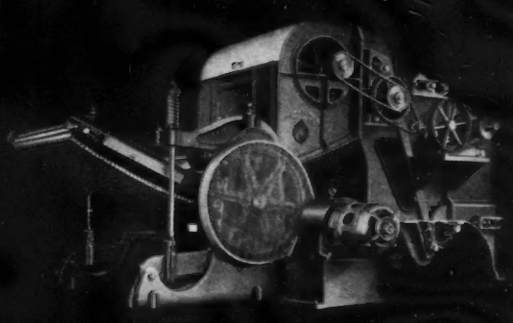
Roller Type Dryer with Individual Motor-Driven Rolls. Is Proving Ideal for Dyed Fabrics of All Kinds.



Travel-Air Loop Dryer for Dyed or Fin. Piece Gds. Unique Principle Assures Perfect Uniformity, Unheard-of Production.



Super-Speed Tenter Dryer. High Capacity for All Weaves, Weights and Widths of Cloth. Economically Operated.



Squeeze Rolls that Supply an Efficient, Continuous Method for the Preparation of Dyed Stock for Drying.

PROCTOR & SCHWARTZ • INC • PHILADELPHIA

ANOTHER TEXTILE MACHINE

Goes Modern!

Easily Installed Fafnir Ball Bearing Pillow Blocks Carry The Loads In Terrell Bobbin Stripper

DEPENDABILITY and friction-freedom are essential in the bearings which support the brush shafts of the improved Terrell Bobbin Stripper. That is why Terrell Machine Company, Charlotte, N. C., chose large-ball, deep-groove Fafnir Pillow Blocks.

And Terrell gained a bonus, too – for the Fafnir Wide Inner Ring Bearing with exclusive, patented Self-Locking Collar makes these ball bearing units easiest of all to install. They require grease lubrication only a few times a year, and their efficient seals prevent leakage of lubricant.

Let Fafnir Ball Bearing Transmission Units or specialized Textile Units modernize your equipment at low cost. The Fafnir Textile Catalog describes the line. The Fafnir Bearing Company, New Britain, Connecticut. Branch Offices: Atlanta . . . Birmingham . . . Boston . . . Charlotte . . . Dallas.

FAFNIR *Ball Bearings*

THE BALANCED LINE • MOST COMPLETE IN AMERICA

COTTON SMALL WARES

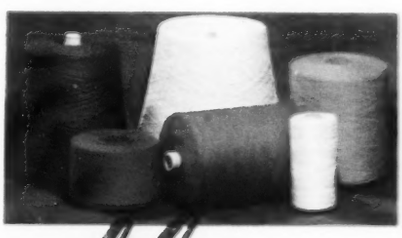
ONE OF MANY BRANCHES OF THE TEXTILE INDUSTRY WHICH WE SERVE

MANY manufacturers of narrow fabrics, braids, insulated wire, covered rubber yarn and similar products find our service well adapted to their needs.

Having served them for 30 years, we are thoroughly familiar with their color and yarn requirements, and can supply the yarn as well as the dyeing, if they desire. Having hundreds of dyeing machines in 22 different sizes, we can make consistently prompt deliveries, regardless of the size of the dye lots.

The Franklin Package is an ideal supply for warping or winding, delivering freely to the last wrap, by rotation or overend at high speeds.

If you use colored yarns, — cotton, spun rayon or worsted, let Franklin Process, the oldest and largest package dyers in the country, simplify your manufacturing problems.



FRANKLIN PROCESS *Natural Yarns, Colored Yarns, Glazed Yarns, Custom Dyeing.* Providence, Philadelphia, Greenville, Chattanooga • New York Representative, 40 Worth St. • Chicago Representative, 100 W. Monroe St.

WE ALSO DYE YARNS FOR
dresses • chenille fabrics • shirts • pajamas • underwear • handkerchiefs • curtains draperies • upholstery fabrics • terry cloth hosiery • knit goods

franklin process

★ LARGEST PACKAGE DYERS IN THE WORLD

AQUAROL

AQUAROL

REG. U. S. PAT. OFF.

FOR WATER-REPELLENT FINISHES

• AQUAROL naturally takes first place . . . as naturally as a duck takes to water.

• AQUAROL is excellently adapted to finishing rayon fabrics, including knit goods, spun rayons, etc. . . . woolens and hosiery.

• AQUAROL gives a desirable and pleasing finish to dress goods and hosiery as well as greater protection against water and adverse weather.

• AQUAROL insures perfect water repellency without affecting the texture or influencing the free circulation of air through the fabric or garment.

• AQUAROL in a one bath method is both economical and easy to apply as a final finishing operation.

"GET REAL WATER-REPELLENCY . . . GET AQUAROL!"

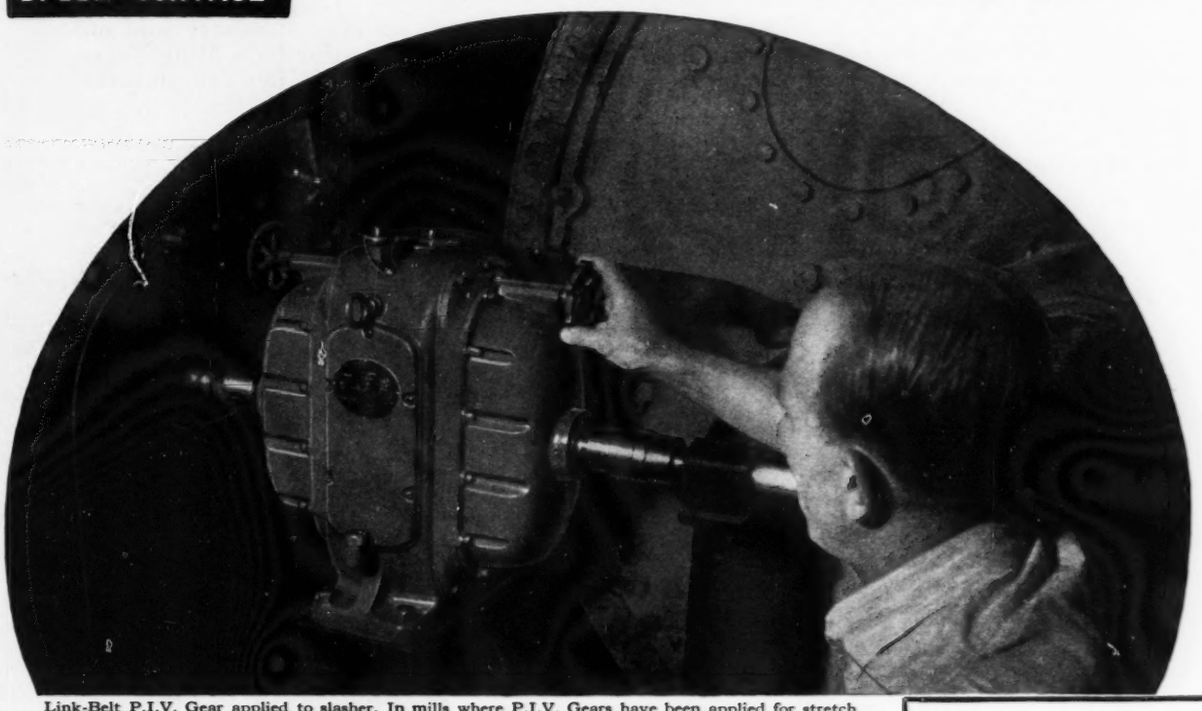
ARKANSAS CO·INC·

NEWARK · NEW JERSEY

LINK-BELT
P.I.V.
GEAR
SPEED CONTROL

Essential for Defense

RUN YOUR MACHINES at their MOST PRODUCTIVE SPEEDS



Link-Belt P.I.V. Gear applied to slasher. In mills where P.I.V. Gears have been applied for stretch control on slashers, tests show that the yarn retains its elasticity after slashing. Tests made in the weave room of one mill showed an increase in loom production due to less breaks and fewer loom stops. Production reports for weaving before P.I.V. was installed showed 91.5%. After the change-over to P.I.V. slasher stretch control the report showed 93.5% or an increase of 2%.

★ At the turn of a handle the Link-Belt P.I.V. Gear places at your command an infinite variation of speeds (within predetermined limits) which can be made instantaneously and while the machine is in operation.

Driven by a positive chain drive, the P.I.V. Gear cannot slip—it transmits every revolution of the motor—assuring accuracy under all conditions of speed, atmosphere and material worked. Unusually compact, durable, running in oil, of all-metal construction, it gives trouble-free, dependable service—greatly increases the versatility of the machine to which it is applied. The range of sizes now extends from ½ to 15 H.P.

LINK-BELT COMPANY, Philadelphia, Chicago, Indianapolis, Atlanta, Dallas, San Francisco, Toronto, New York, Boston, Baltimore, New Orleans. Other offices, warehouses and distributors in all principal cities. 8325

LINK-BELT MAKES A COMPLETE LINE OF POSITIVE DRIVES

Check THESE FEATURES

- ✓ Positive—no possibility of slippage—No Loss of R.P.M.
- ✓ Instantly Adjustable—while machine is running.
- ✓ Infinitely Variable — Full range of speed ratios available, no "steps."
- ✓ Holds adjustment indefinitely.
- ✓ Remote control available, also automatic and vernier adjustments.

SEND FOR THIS FREE DATA BOOK!

Full of valuable engineering information on variable speed transmission. Ask for P.I.V. Gear Book No. 1574. Also send for books on any or all of the other Link-Belt Positive Drives illustrated at left.

Experienced Textile Men Specify U.S. RING TRAVELERS

Men who have spent years in efforts to get better spinning room efficiency—are sold on U. S. Ring Travelers, and actually spend less money in using them. For U. S. Ring Travelers produce smooth, even yarn—kink free fibre of all kinds. Why? They are uniform travelers, made of the best materials by skilled workmen.

Experienced textile men specify U. S. Ring Travelers because they eliminate waste production and produce better yarn—qualities which make for more profits.

Better production—more profits—less cost for production—more profits. No wonder U. S. Ring Travelers are experienced textile men's choice.

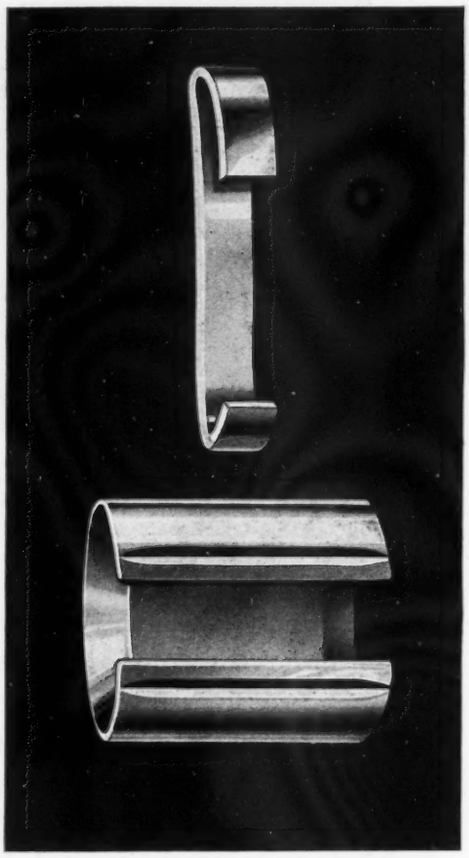
Representative of hundreds of Textile men---

—"Uniformity in these ring travelers insures our turning out quality products."

—"Quality ring travelers turn out quality products. We have to have both—we specify U. S. Ring Travelers."

—"Uniformity is assured through manufacture, and sealed containers in which U. S. Ring Travelers are shipped."

The Bowen Patented Bevel Edge feature of U. S. Ring Travelers produces ideally smooth, even yarn—there are no angular edges to flatten the end—no split ends in throwing rayon and silk—no fly waste in the spinning and twisting of cotton, wool, worsted, asbestos and kindred fibres. Made and stocked in all sizes and weights, for all kinds and counts of yarns.



The Bowen Patented Bevel Edge Travelers

U. S. RING TRAVELER COMPANY

PROVIDENCE, R. I. **GREENVILLE, S. C.**

AMOS M. BOWEN, Pres.

Southern Sales Representatives

WILLIAM P. VAUGHAN, P. O. Box 792, Greenville, S. C.
WILLIAM H. ROSE, P. O. Box 792, Greenville, S. C.
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UNIVERSAL STANDARD RING TRAVELERS

U.S. RING TRAVELER CO.

"A Traveler for Every Fibre"

BOWEN PATENTS

COTTON and RHOPLEX are VERSATILE

COTTON is a versatile textile fiber. From the cotton boll, countless fabrics ranging from dainty dress materials to rugged industrial fabrics are woven. Sheer summer fabrics for dresses, luxurious towels for the home, durable canvas for tents are only a few of the varied potential uses of this fiber. Logical enough, the sobriquet, King Cotton.

RHOPLEX RESINS are even more versatile as textile finishing agents. They add strength, hand, and life not only to cotton, but also to rayon, silk, linen, and other fabrics. RHOPLEX RESINS are clear, odorless, and durable; they are free from the difficulties encountered with ordinary resin finishes. In finishing fabrics—it's King RHOPLEX.

RÖHM & HAAS COMPANY, INCORPORATED

222 West Washington Square, Philadelphia, Pa.

No cotton mill is really modern unless its opening, blending, cleaning and picking departments are as fully modernized as the needs of high speed and long draft equipment demand.

Money spent for modernizing machinery beyond the picker room can never earn its full return unless the preparation of the cotton is right so that the laps on the cards are clean and uniform.

Money spent for good blending, cleaning and picking equipment probably pays better returns for the amount expended than any other invested in a modernization program.

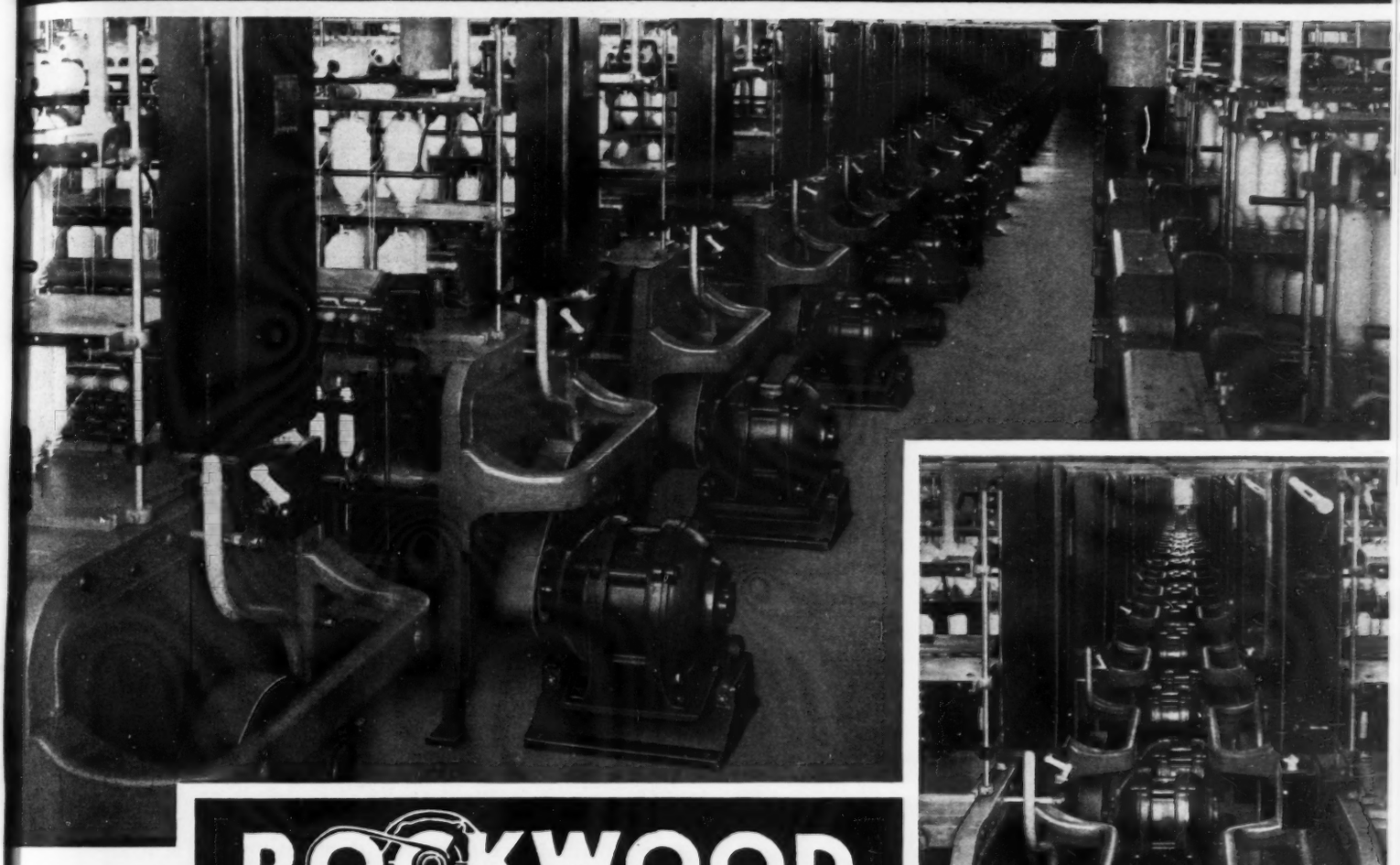
We have specialized in opening and picking room equipment for years and can certainly help to make your picking and opening departments better if they are not now as good as you could wish them to be.

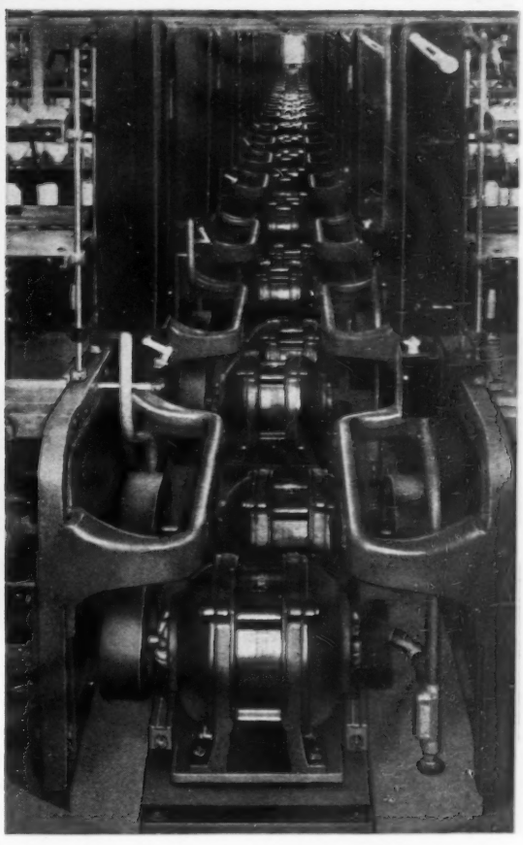
AldricH MachinE WorkS

Greenwood, South Carolina

OLYMPIA PLANT, HAMPTON DIVISION

OF THE PACIFIC MILLS CHOSE ROCKWOOD pivoted-motor DRIVES



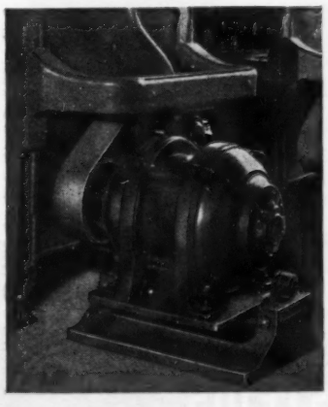


Top picture shows long aisle of modern spinning frames at the Olympia Plant equipped with latest design Rockwood Floor Type Drives. The lower picture shows how little space is required when drives are staggered.

ROCKWOOD PIVOTED MOTOR DRIVE

Another great Cotton Mill uses Rockwood Pivoted Drives for more and better production—*AT LESS COST.*

Pacific Mills, Olympia Plant, Hampton Div., Columbia, South Carolina, have their spinning frames equipped with Rockwood Drives. For spinning frames and twisters, and for looms, modern Rockwood Drives start their machines quickly and smoothly, waste almost no power, keep the machines relentlessly up to speeds, and require almost no maintenance.



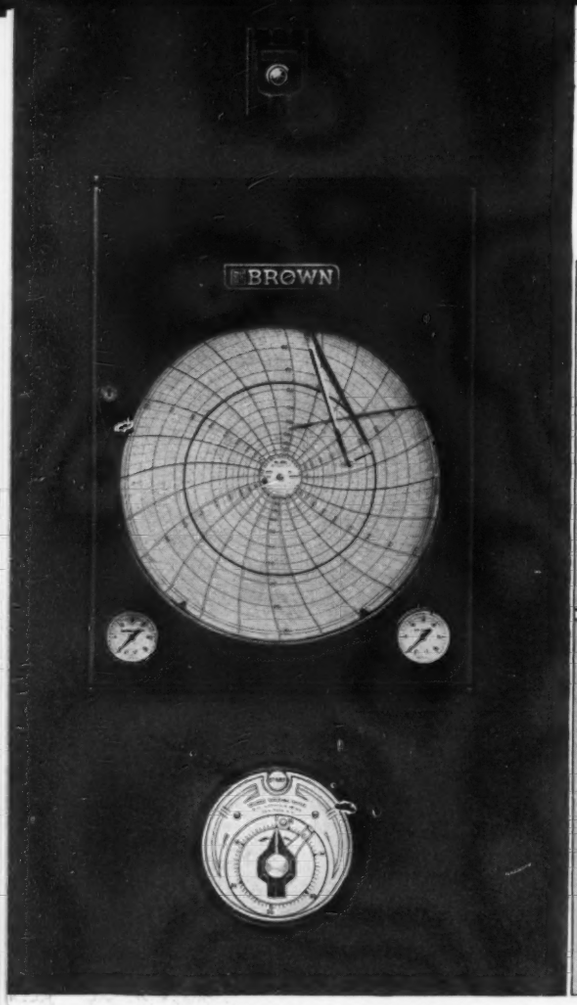
Clean, simple, sturdy motor m un'. ing—good for the life of the frame.

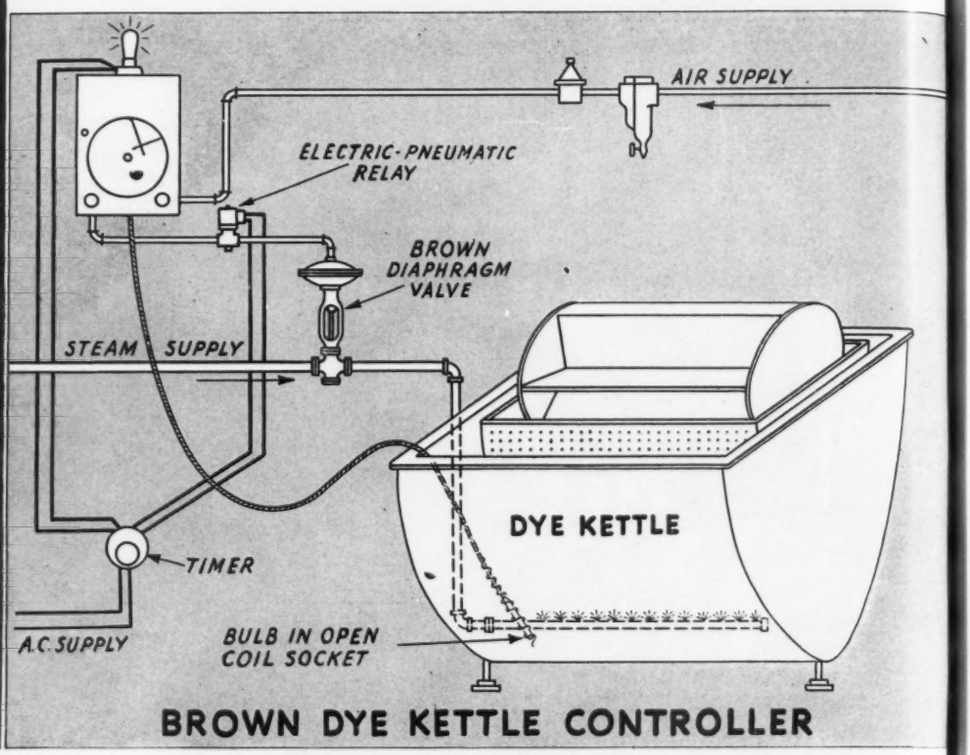
Rockwood Drives *automatically* tighten their own belts whenever the load increases and ease off again when the load decreases. They do it better than could possibly be done by human hand—a truly wonderful, almost unbelievable, *automatic* action. That's the advantage of the pivoted motor mounting. It is no wonder that they help cotton mills to turn out more and better production and with so great a reduction in maintenance.

Rockwood engineers are familiar with textile mill problems—their services are available, without obligation, to mills considering a "modernization" program—ask your distributor or write to factory for their help. You can't lose, but you may gain *considerably.*

ROCKWOOD MANUFACTURING CO.
Indianapolis, Indiana

How to Safeguard
DYEING PROFITS





BROWN DYE KETTLE CONTROLLER

The above illustration shows the recommended installation for Brown Recording Thermometer Controllers (air-operated—10% Throttlor)—for dye kettle control.

In the process of dyeing textiles—there is a critical temperature and time factor at which the absorption of each dyestuff by the fibre is at the highest. Temperature variations, either "high" or "low," mean a loss in uneven and blurred shades.

To know when this critical temperature has been reached and to hold it during the correct timing period safeguards dye-house profits.

This is impossible even for the most experienced operator without the aid of a dependable control thermometer.

In dye houses where Brown Recording Thermometer Controllers are installed, the operator merely sets the controller at the desired temperature point and time period. He is then free to perform other duties —there is no need for valve watching.

Brown Thermometer Controllers automatically hold the temperature during the whole process at the desired point . . . and automatically shut off the steam supply at the end of the timing period.

Brown Recording, Indicating and Controlling Thermometers, due to their Responsiveness, Simplicity and Flexibility, more than meet the fast-growing demand in the Textile Industry for better temperature control in dyeing processes. They are applicable for all types of dyeing—from skein to piece dyeing—from tub to jig dyeing.

Chart records from Brown Control Thermometers are invaluable guides for duplicating uniform results and bringing about a distinct saving in steam, water and dye.

Brown Thermometer Controllers are supplied in universal, rectangular cases, suitable for wall, front-of-board or flush panel mounting. Easy to install.

Send for Catalog No. 9304

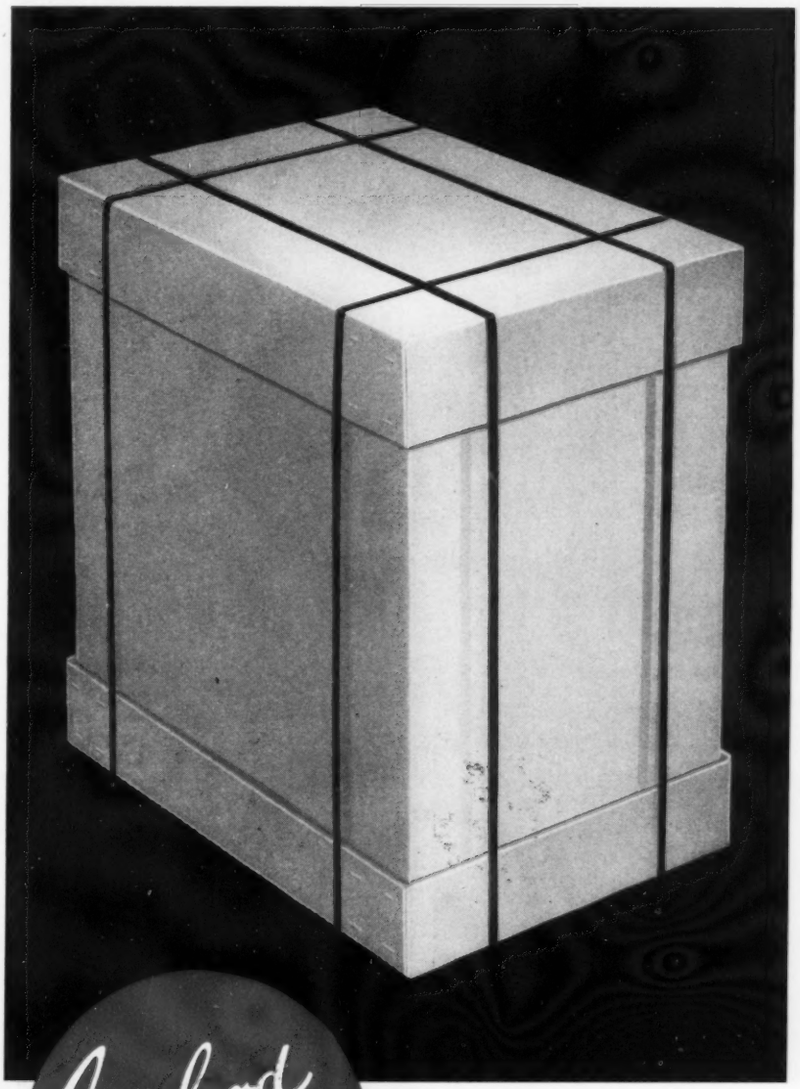
This catalog fully describes the complete line of Brown Instruments and Minneapolis-Honeywell Controls for measuring and controlling moisture content, size cooking, bleaching, mercerizing, dyeing and other textile processes. Write

THE BROWN INSTRUMENT COMPANY
A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR CO.
4492 Wayne Avenue, Philadelphia, Pa.
Offices in all principal cities. Toronto, Canada: 117 Peter Street — Amsterdam-C, Holland: Wijdesteeg 4 — England: Wadsworth Road, Perivale, Greenford, Middlesex — Stockholm, 16, Sweden: Nybrokajen 7.

BROWN THERMOMETER CONTROLLERS
and
MINNEAPOLIS-HONEYWELL CONTROL SYSTEMS

To Measure and Control is to Economize

THEY'RE BUILT TO *Arrive Safely* ...AT *Lower Cost!*



That's the approval leading shippers give Gaylord textile cases

You can prove it right in your own shipping department! Gaylord lighter, tougher textile shipping cases can carry your products to their destination *safely*... and get them there at lower cost.

These special Gaylord-developed cases have the famous Gaylord "Extra Margin of Safety" that withstands pressure from within and punishment from without. They deliver your goods in perfect condition ... protect quality ... create goodwill.

More easily handled ... lighter in weight ... more modern in appearance than ordinary boxes ... Gaylord textile cases are making worthwhile reductions every day in shipping costs for the country's leading textile plants.

Why not let our packaging experts work with you on your shipping problems? No obligation. Just contact your nearest Gaylord office.

Gaylord Boxes

CORRUGATED AND SOLID FIBRE

Also Gaylord Folding Cartons, Grocery Bags and Sacks ... Kraft and Specialties

Gaylord Container Corporation

General Offices: SAINT LOUIS

New York • Chicago • San Francisco • Atlanta • New Orleans • Jersey City • Seattle • Indianapolis • Houston
Los Angeles • Minneapolis • Dallas • Jacksonville • Columbus • Fort Worth • Detroit • Tampa • Cincinnati
Des Moines • Oklahoma City • Portland • Greenville • San Antonio • Memphis • Kansas City • Milwaukee
Bogalusa • Weslaco • Greensboro

TUFFERIZED Card Clothing

U. S. PATENT NO. 2,174,173

Helps You "Swing" into Higher Card Room Production

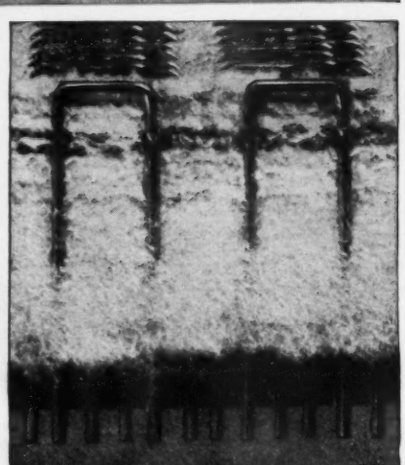
The precision excellence of the new Tufferized Card Clothing wins new friends every day. This exclusive, patented-precision-process accurately cuts the wires and forms the teeth to seat flat and firmly into the famous, patented Tuffer foundation with precision accuracy. This allows more accurate setting from beginning to end, more uniform carding and higher production.

Write for additional information or ask our representative

HOWARD BROS. MFG. CO.

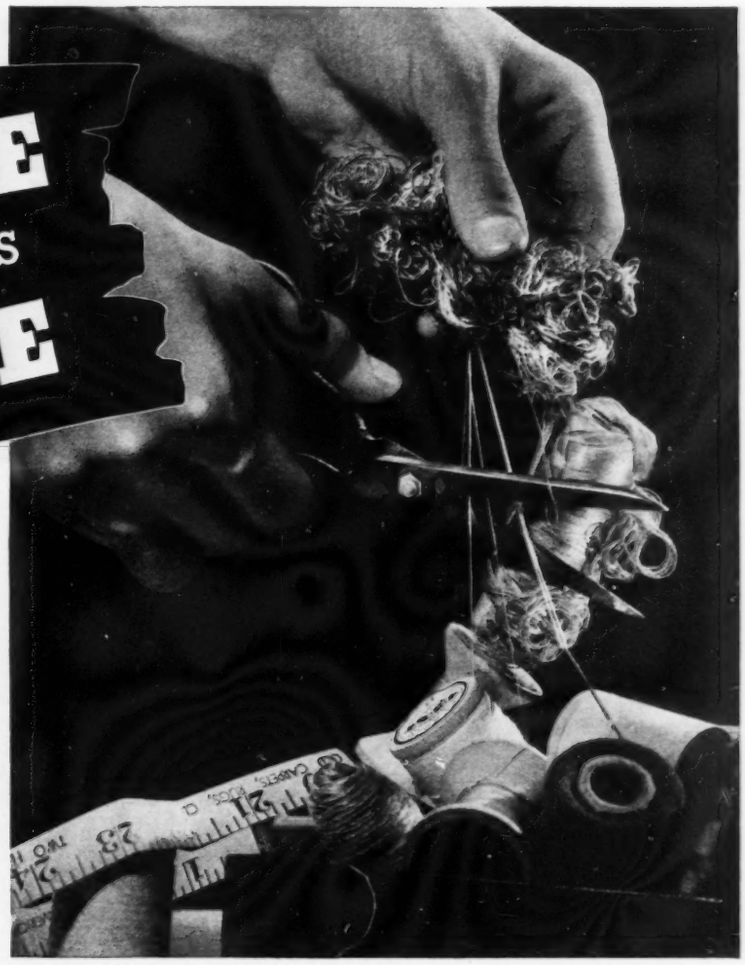
HOME OFFICE AND FACTORY: WORCESTER, MASS.

Southern Plants: Atlanta, Ga., Gastonia, N. C. *Branch Offices:* Philadelphia, Dallas
Canadian Agents: Colwool Accessories, Ltd., Toronto 2, Canada



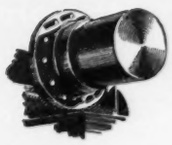
Microphotograph shows how Tufferized Card Clothing wires seat square, flat, and firmly into the foundation with wires parallel . . even in length . . spaced uniformly

Products: Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards — Napper Clothing, Brush Clothing, Strickles, Emery Fillets, Top Flats Recovered and extra sets loaned at all plants — Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant — Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted-Eye and Regular Wire Heddles



WASTE IS OBVIOUS HERE

. . . BUT A 25% LOSS WENT UNDETECTED HERE*



To quote the plant superintendent: "The grease formerly used on our difficult bearing lubrication job would not withstand the moisture conditions encountered. It gummed up the bearings — power costs jumped as much as $250 per month. * "On the recommendation of Tide Water engineers we changed to Tycol Green Cast Greases because of their superior lubricating properties, and their ability to resist the washing action of water. Bearings are now better lubricated and excessive power costs have been banished. And we were surprised and delighted to learn that 25% more cars may now be hauled per locomotive because of the reduction in frictional losses." » » » This operator, like hundreds of others using Tycol Green Cast Greases, gets better protection — more effective lubrication — per pound of grease. Here's the reason: Tycol Green Cast Greases are made from the finest cylinder oils available. A minimum of soap — a maximum of oil — is used. More lubricating oil per pound assures more economical lubrication. » » » Call the Tide Water representative or office for full details.

Regional Offices: Boston, Philadelphia, Pittsburgh, Charlotte, N. C.

TIDE WATER ASSOCIATED OIL COMPANY

EASTERN DIVISION, 17 BATTERY PLACE

New York, N. Y.

INDUSTRIAL TYCOL OILS-GREASES

TIDE WATER INDUSTRIAL LUBRICANTS

THERE IS A COMPLETE LINE OF TYCOL LUBRICANTS SCIENTIFICALLY ENGINEERED FOR EVERY INDUSTRIAL USE

WHY THE ROTOCURE PROCESS OF PRODUCES

THE BWH Rotocure Process of Continuous Vulcanization is the only practical method of producing uniform rubber belting entirely free from press overlaps. It solves the problem because the belting is processed on an exclusive patented rotary type of press, radical in principle. It substitutes uniformity for variation by making the vulcanizing process automatic instead of spasmodic. Uniformity results not from the skill or experience of the operator, but from the unvarying precision of the machine. The result: a uniform belt uniformly vulcanized and uniformly stretched, that will give uniform service.

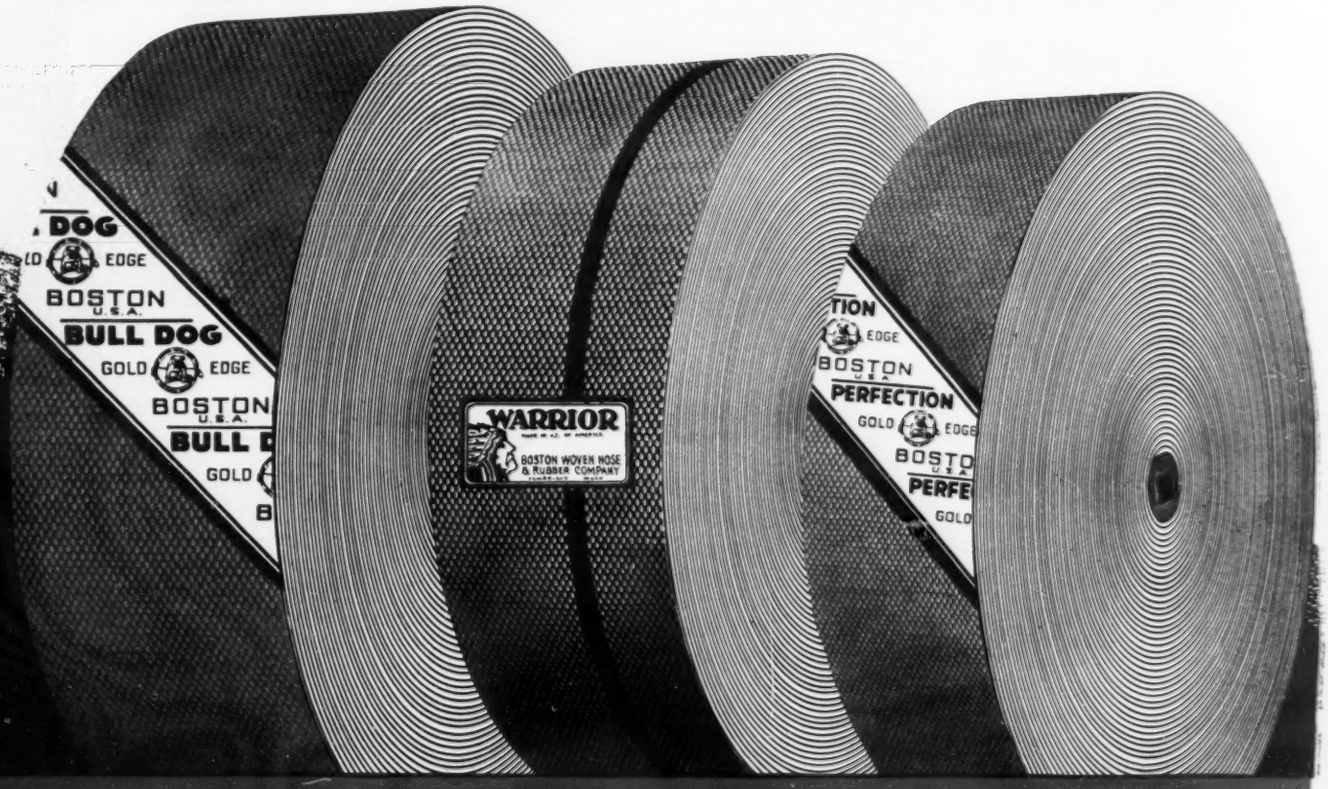
The advantages of continuously vulcanized belts and the economy which they represent in the operation of your plant cost you nothing. BWH belts, made by this process, are competitive in price. You pay no premium for this extra measure of quality and service. It is only necessary to order belting by name and specify the BWH brand which best suits your service requirements.

BOSTON WOVEN HOSE AND RUBBER COMPANY

BOSTON WOVEN HOSE

CONTINUOUS VULCANIZATION

BETTER BELTS



BULL DOG

For the severest requirements of drive and endurance. Extreme and uniform flexibility to meet difficult driving conditions. The gold standard of belt value. No drive too hard. No service too severe.

WARRIOR

Built of special 32-oz. duck, folded construction, highly resistant to stress and strain, and with high quality friction between the plies. For hard general use where sturdy and consistent performance is required.

PERFECTION

Built on a proved principle — many plies of relatively light-weight duck instead of a few plies of heavy duck. Widely used in the lumber industry on woodworking machinery; also for motor fan and centrifugal pump drives.

The above belts are made in all standard widths and any number of plies to meet specified conditions. Made endless if desired.

& RUBBER COMPANY CAMBRIDGE MASS. U.S.A.

The call for FAST COLOR

COLOR is the strongest medium of appeal to the consuming public. Long ago, progressive textile manufacturers envisioned the broad possibilities afforded by color in stimulating sales, but its full value was not realized until the invention of vat dyes. They gave the processor a rich, new material, and the consumer color quality hitherto unobtainable. The advent of large-scale production of vat colors in America by Du Pont and other manufacturers early in 1920 filled a definite need. As a consequence, more dyed and printed fabrics are colored with vat dyes than ever before. In 1939, the consumption of vat colors in the United States reached an all-time high.

Improved technique in the manufacture and application of vat colors greatly aided the production of fast-dyed lines of merchandise. Industry recognized their merits. A number of manufacturers have built a national business solely on the basis of color fastness. Many of the most widely advertised and heaviest selling textile lines stress color quality, and department stores are giving fast-colored merchandise a big play. Trade-marked lines of vat-dyed fabrics are available throughout the country.

The establishment of color quality has been so subtle and unobtrusive that the presence of fastness in many articles is taken for granted. The shirting industry is an outstanding example. Twenty years ago the ratio of white versus colored shirts was three to one. This year it is estimated that over 50% will carry color in one form or another—evidence that the public responds to color if it is fast.

The United States Government emphasizes color permanence by specifying vat dyes for major types of uniform cloths—a far cry from 1917, when sulfur dyes were about the best available. The use of vat colors has resulted in better-looking uniforms possessing exceptional fastness to service requirements.

There exists a wide field for the exploitation of vat colors in men's sportswear fabrics. The coming year should see a much broader use of vat colors in many diversified lines. The continued acceptance of colored merchandise is based upon consumer satisfaction. Serviceability is highly important and the colors are expected to last. They should not fade, wash out, run or rub off.

In this vital retention of original color quality, vat dyes stand alone. They are unexcelled in fastness, and no other class of dyes will give comparable service.

As a result of intensive dye research based upon 138 years of chemical experience, Du Pont offers the American textile industry a wide range of quality dyes capable of meeting this growing demand for fast color.

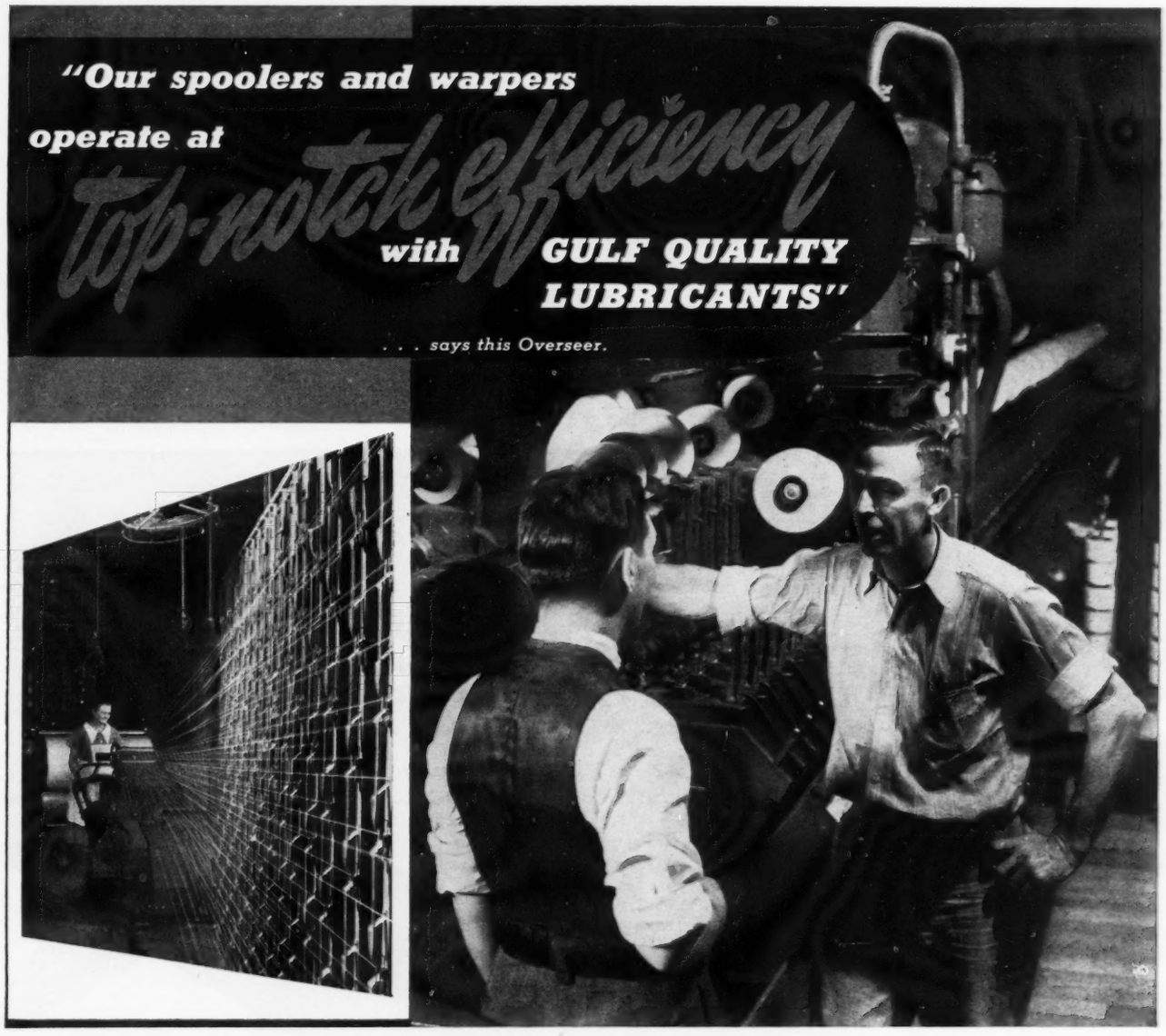
FOR COLOR PERMANENCE THERE IS NOTHING FINER THAN A VAT DYE . . .

E. I. DU PONT DE NEMOURS & CO. (INC.)

Organic Chemicals Dept., Dyestuffs Division

Wilmington, Delaware

DU PONT DYESTUFFS



"GULF PERIODIC CONSULTATION SERVICE
protects our large investment in modern machinery"

"THROUGH the use of Gulf's higher quality lubricants we have insured our costly equipment against the common run of operating difficulties," says this Overseer. "And we are satisfied that these better oils and greases have been an important factor in the fine production records we are making."

Modern high-speed equipment requires stable lubricants which resist gumming and oxidation to a high degree. That is why leading mills throughout the industry have adopted Gulf's higher quality lubricants and are taking full advantage of the cooperative engineering service extended by Gulf's large staff of trained engineers.

Make sure your equipment is getting the kind of lubrication that insures low operating costs and efficient production. Write or phone your nearest Gulf office today and ask an engineer to call. You will be under no obligation—and he can be of real assistance to you.

this booklet will suggest to you a practical method by which you can improve production and reduce operating costs. Write for your free copy.

GULF INDUSTRIAL LUBRICATION

Gulf Oil Corporation - Gulf Refining Company
3813 Gulf Building, Pittsburgh, Pa. C.
Please send me my copy — no charge — of the booklet "GULF PERIODIC CONSULTATION SERVICE."

Name.....

Company.....

Address.....

ASHWORTH PIONEERS IN CARD CLOTHING

OUR Periodical Surveys

WILL PUT YOUR CARD MAINTENANCE ON A BUSINESS-LIKE BASIS

Delaying card repairs until a breakdown is false economy, because bad work results, eventual cost is greater and shutdowns may be necessary at highly inconvenient times.

Ashworth periodical surveys save money and put card maintenance on a business like basis. They are made by practical card men, who determine the condition of all clothing, chains, bearings and other wearing parts and classify necessary repairs according to urgency.

Thus you distribute maintenance cost over a period of months and plan card shutdowns so they will not interfere with production.

This free service, which we have rendered to the textile industry for years, is one of many ways in which Ashworth has pioneered to improve card clothing performance.

ASHWORTH BROS., INC., Woolen Div., AMERICAN CARD CLOTHING CO.

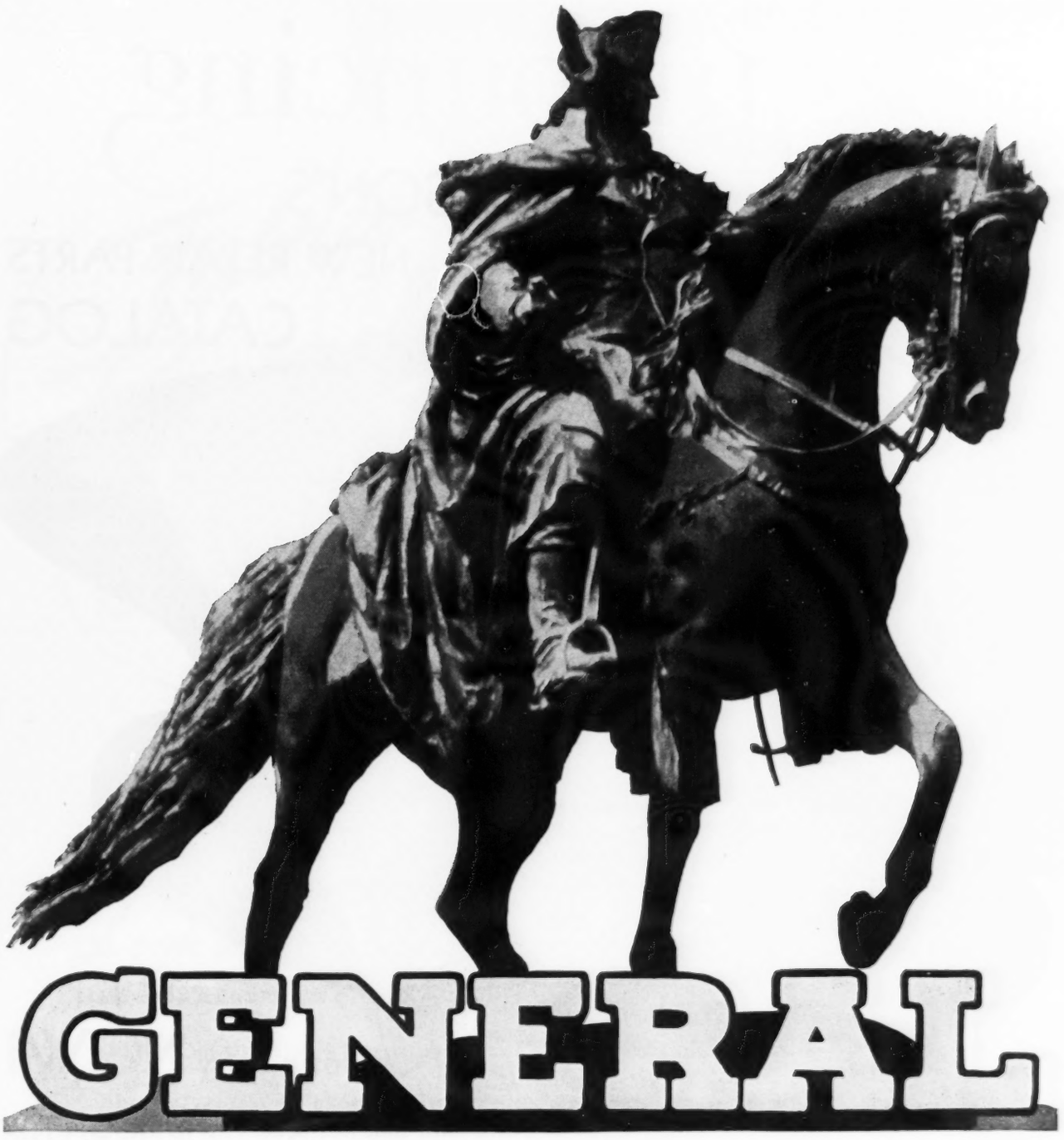
3 FACTORIES Fall River, Worcester, Philadelphia

6 REPAIR SHOPS Fall River, Philadelphia, Charlotte, Greenville, Atlanta, Dallas

7 DISTRIBUTING POINTS Fall River, Worcester, Philadelphia, Charlotte, Greenville, Atlanta, Dallas

★PRODUCTS AND SERVICES: Card Clothing for Cotton, Wool, Worsted, Silk and Asbestos Cards and for All Types of Napping Machinery • • Brusher Clothing and Card Clothing for Special Purposes • • Lickerin Wire and Garnet Wire • • Sole Distributors for Platt's Metallic Wire • • Lickerins and Top Flats Re-clothed at All Plants.

★ Southwestern Representative: Textile Supply Co., Dallas, Texas.



GENERAL

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GENERAL COAL COMPANY
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Announcing HENDERSON'S NEW REPAIR PARTS CATALOG

Send for your copy **NOW!**

EVERY mill that has used HENDERSON Textile Repair Parts KNOWS they are tops in quality, accuracy and ability to stand up under the hardest use. The new Parts Catalog just issued will be of great value to textile mills as it has been compiled with a view towards rendering a more efficient and effective service to the many users of HENDERSON Repair Parts. It will be sent gladly on request, without obligation. Use the coupon at left and secure your copy NOW.

HENDERSON FOUNDRY & MACHINE WORKS, HAMPTON, GA.

Without obligation, send me your new Repair Parts Catalog.

NAME .....

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Fabric Personality points to CETOSOL!

Look to *CETOSOL for accented color brilliance on printed cottons, rayons, spun rayons and all popular fibre mixtures. ★ Possessing extreme clarity, binding power and fastness, CETOSOL excels in pigment prints, white discharge, white overprints and direct or acid color work. ★ As a finish, CETOSOL assures a pleasing hand and more sustained laundry resistance. ★ Call upon Stein-Hall technicians to point the way to finer color work and finish . . the way to fabric ***personality!***

*PATENTS APPLIED FOR

STEIN, HALL & COMPANY, Inc.

285 MADISON AVENUE NEW YORK

Established 1866

LABORATORIES AT . . NEW YORK • CHICAGO • CHARLOTTE • PROVIDENCE • LONG ISLAND CITY, N. Y.

Machinery Manufacturers Are The Front Line Trenches in U. S.

We are proud to have been selected to contribute a large share toward National Defense. A complete new organization and plant has been established for this duty. The textile machinery plant, in no way affected, is concentrating with renewed vigor on supplying an ever increasing number of mills.

THE *Flexibility* OF THE H&B HIGH-DRAFT ROVING SYSTEM

PERMITS MODERNIZATION OF YOUR ROVING FRAMES WITH A RELATIVELY SMALL INVESTMENT.

THE H & B High-Draft Roving System on NEW H & B frames naturally assures longer and better performance with less upkeep, but if your budget does not permit new frames you can STILL step up production and lower card room costs by applying the H & B System to the frames you ALREADY HAVE, provided they are of ANY standard make.

H & B High-Draft Roving will produce 3.5 or 4 hank roving from 60 grain sliver in ONE OPERATION, drafting up to 30 in many cases and effecting quality equal or superior to that produced on conventional frames.

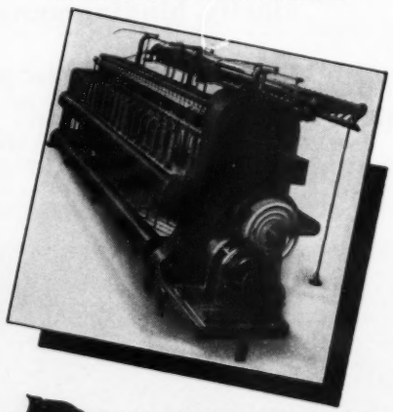
The heart of the system is our patented Scroll Condenser (made of Bakelite to eliminate static), which gives the sliver a half turn of twist between the two drafting zones, thus holding in the flank fibres which otherwise would become detached. This twisting principle is exclusive with H & B and makes an important contribution to the strength and regularity of the yarn.

Numerous installations (names on request) attest to the simplicity, flexibility and economy of this system. May we recommend an installation for YOUR mill, free of all obligations?

H & B AMERICAN MACHINE COMPANY
TEXTILE MILL MACHINERY
PLANT AT PAWTUCKET, RHODE ISLAND

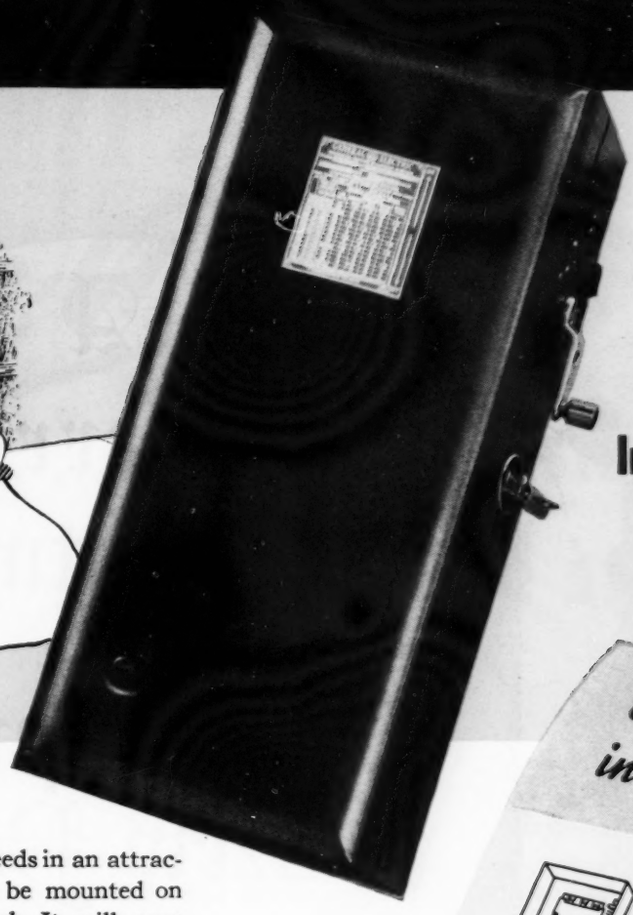
BOSTON OFFICE: 161 Devonshire St.; ATLANTA OFFICE: 815 Citizen & Southern National Bank Bldg.; CHARLOTTE OFFICE: 1201-3 Johnston Bldg.

EXPORT DEPARTMENT: United States Machinery Co. 115 Broad St., New York, N. Y., U. S. A.



Our New High Draft Roving Frame With 12 Major Improvements

Let us wrap up your control needs with a G-E COMBINATION STARTER



for
Easy Installation
Increased Safety
Improved Appearance
Assured Protection

What we can include in your "package"—
MOTOR-CIRCUIT SWITCH
Unfused Disconnect
OR
Fused Disconnect
OR
Manual Circuit Breaker
MAGNETIC STARTER
Magnetic starter with overload relays, operates automatically or from one or more local or remote push-button stations
STURDY ENCLOSURE
General Purpose
Heavy sheet-steel enclosures, or enclosures suitable for corrosive or hazardous conditions
OR
Dust-tight and Watertight

LET us wrap up your motor-control needs in an attractive steel "package" which can be mounted on the wall as a unit *ready to go to work.* It will save you the bother of selecting several separate devices ordering them separately, checking them when they are received, and then mounting and interconnecting them. With the G-E combination starter (CR7008) you can be sure that your entire control is suited to motor-control work—the parts are correctly chosen and assembled.

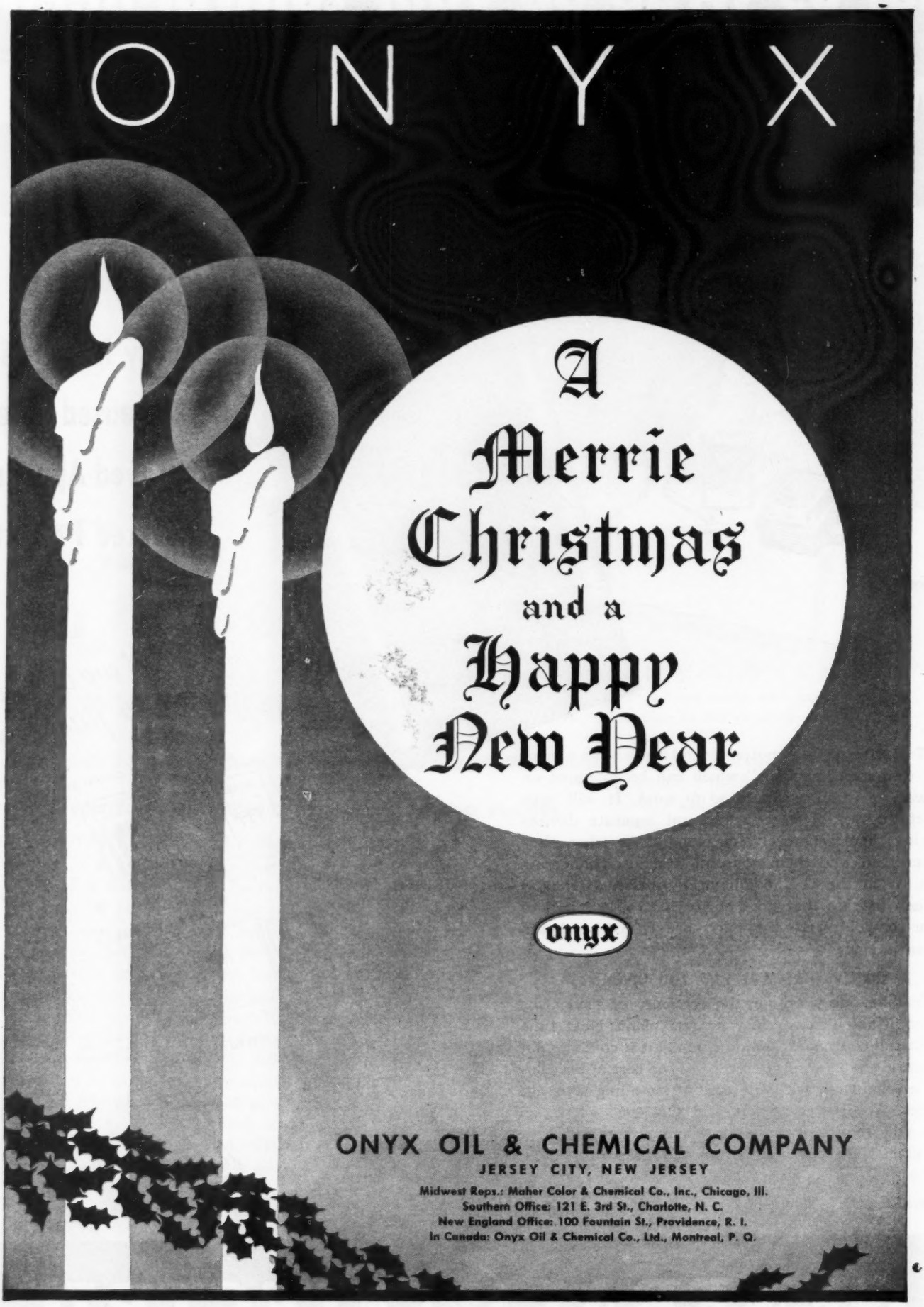
A SURVEY THAT WILL PAY YOU DIVIDENDS

Don't take our word for the economy of using this starter. Make a survey in your own plant. Next time you install control for a motor, make it a *combination* starter. Keep an accurate record of the cost of installation as compared with the cost of installing separate devices. We'll wager that the CR7008 will save you money—and you'll have a control that gives you four big advantages over separate devices.

General Electric, Schenectady, N. Y.

GENERAL ELECTRIC

676-16


ONYX
A Merrie Christmas and a Happy New Year
onyx
ONYX OIL & CHEMICAL COMPANY
JERSEY CITY, NEW JERSEY
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Southern Office: 121 E. 3rd St., Charlotte, N. C.
New England Office: 100 Fountain St., Providence, R. I.
In Canada: Onyx Oil & Chemical Co., Ltd., Montreal, P. Q.

TECA BLENDS

REG. U. S. PAT. OFF.

have *spun-in stability*

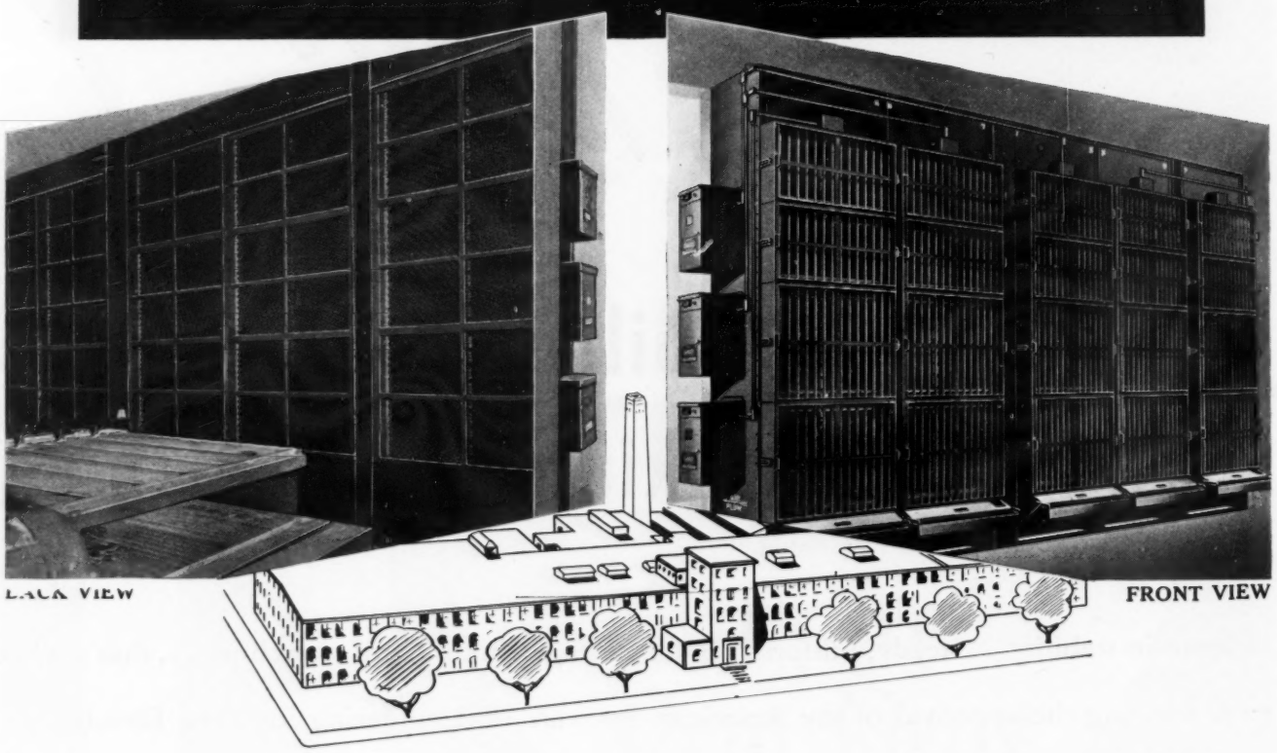
. . . built-in resistance to shrinking and stretching

Spun-in stability. . . steady, uniform resistance to shrinking and stretching . . . that's what is winning the approval of the American Institute of Laundering for Teca Blends . . . The stability of Teca Blends does not depend on special finishes, but goes fiber deep. When wet, Teca does not swell as much as other fibers, consequently undergoes little or no change in laundering. In blended yarns, Teca acts as a steadying influence on other fibers . . . Men's and women's garments of launderable TECA BLENDS, made to approved specifications, will be entitled to this official label guaranteeing acceptance of the garments for laundering by the 2,200 leading laundries comprising the Institute's membership. To learn how this laundry approval program can apply to your fabrics, consult . . .

A. M. TENNEY ASSOCIATES, INC. 10 EAST 40TH ST., N. Y. C.

Sales representatives for Tennessee Eastman Corp., subsidiary of Eastman Kodak Co.

LOUISVILLE TEXTILES, INC. protect their spinning rooms from dust, soot, and smoke with the ELECTRO·MATIC filter



BACK VIEW FRONT VIEW

Above are shown two views of the new self-cleaning Electro-Matic Filters installed in the plant of Louisville Textiles, Inc., manufacturers of Fincastle drapery and upholstery fabrics. This installation protects spindles against streaking and discoloration from smoke, soot, and dust created by residential and industrial heating systems in the neighborhood.

The Electro-Matic Filter collects the finest air borne particles electrically, automatically washing all collected particles from the filter curtain by continually passing it through an oil bath. Interruptions and shut-downs necessary with manual maintenanced filters are thus eliminated and a higher cleaning efficiency maintained at all times under the most severe operating conditions.

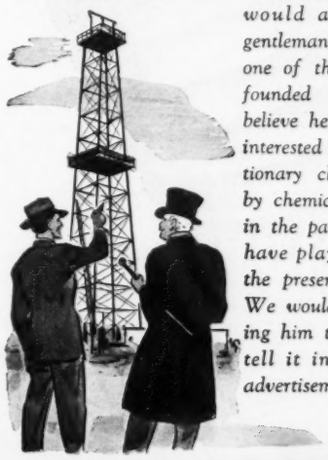
Write for Bulletin No. 250C, which describes in detail the operation of the Electro-Matic and its application to textile dust problems.

AMERICAN AIR FILTER CO., INC., 790 Central Avenue, LOUISVILLE, KY.

AAF ELECTRO·MATIC
Automatic Electrostatic Air Filter

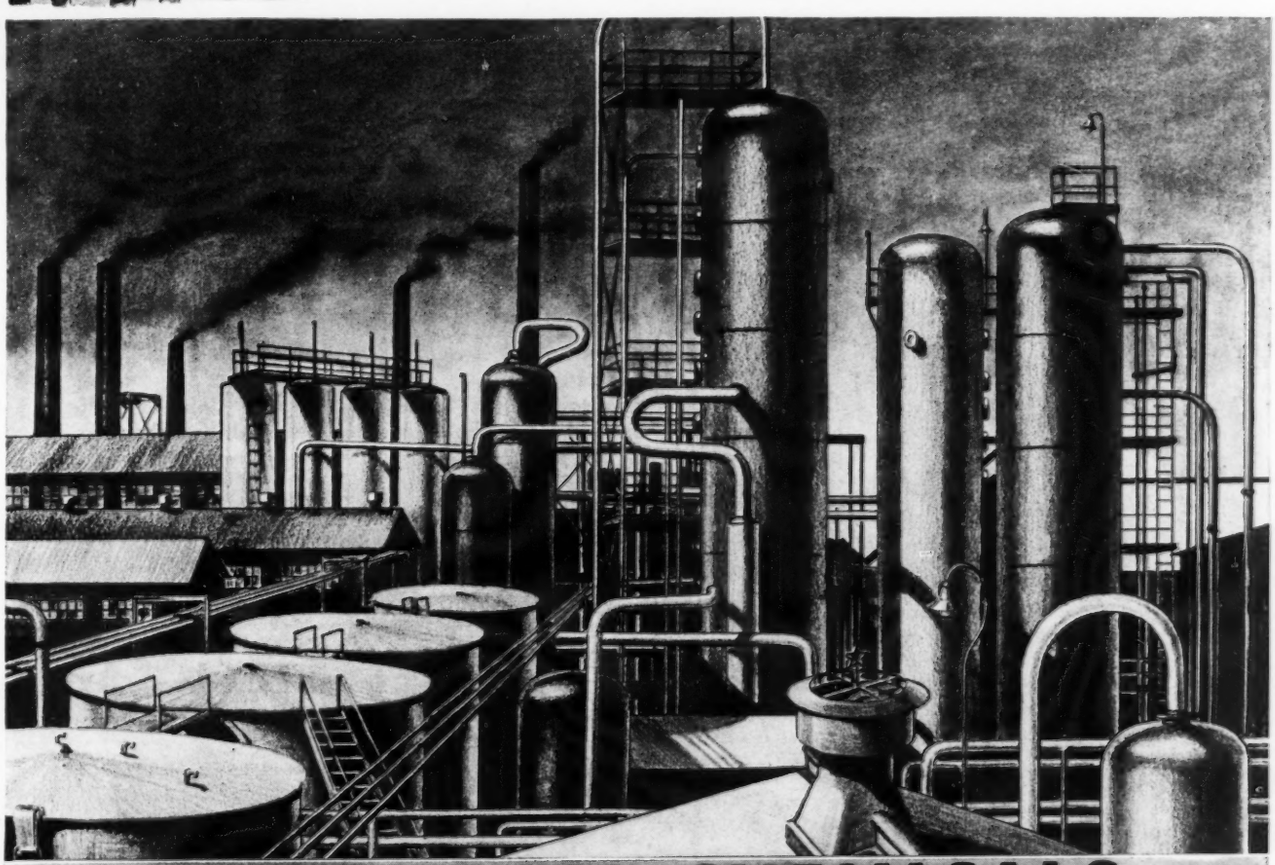
Black Gold!

Suppose someone who lived forty or fifty years ago — say one of the founders of Mathieson — could pay us a visit today. And suppose we could have the pleasure of showing him the sights of 1940, of explaining the vast changes that have taken place since the turn of the century. What do you think would amaze the old gentleman most? If he were one of the pioneers who founded Mathieson, we believe he would be most interested in the revolutionary changes wrought by chemical progress and in the part his successors have played in building the present-day America. We would go about telling him the story as we tell it in this series of advertisements.



● You look astonished, Mr. M., as well you may. Petroleum's importance was only beginning to be appreciated in your day. You could not foresee the time when it would be one of the prime essentials of industrial civilization, and nations would put a far higher value on the possession of oil fields than on deposits of gold or diamonds.

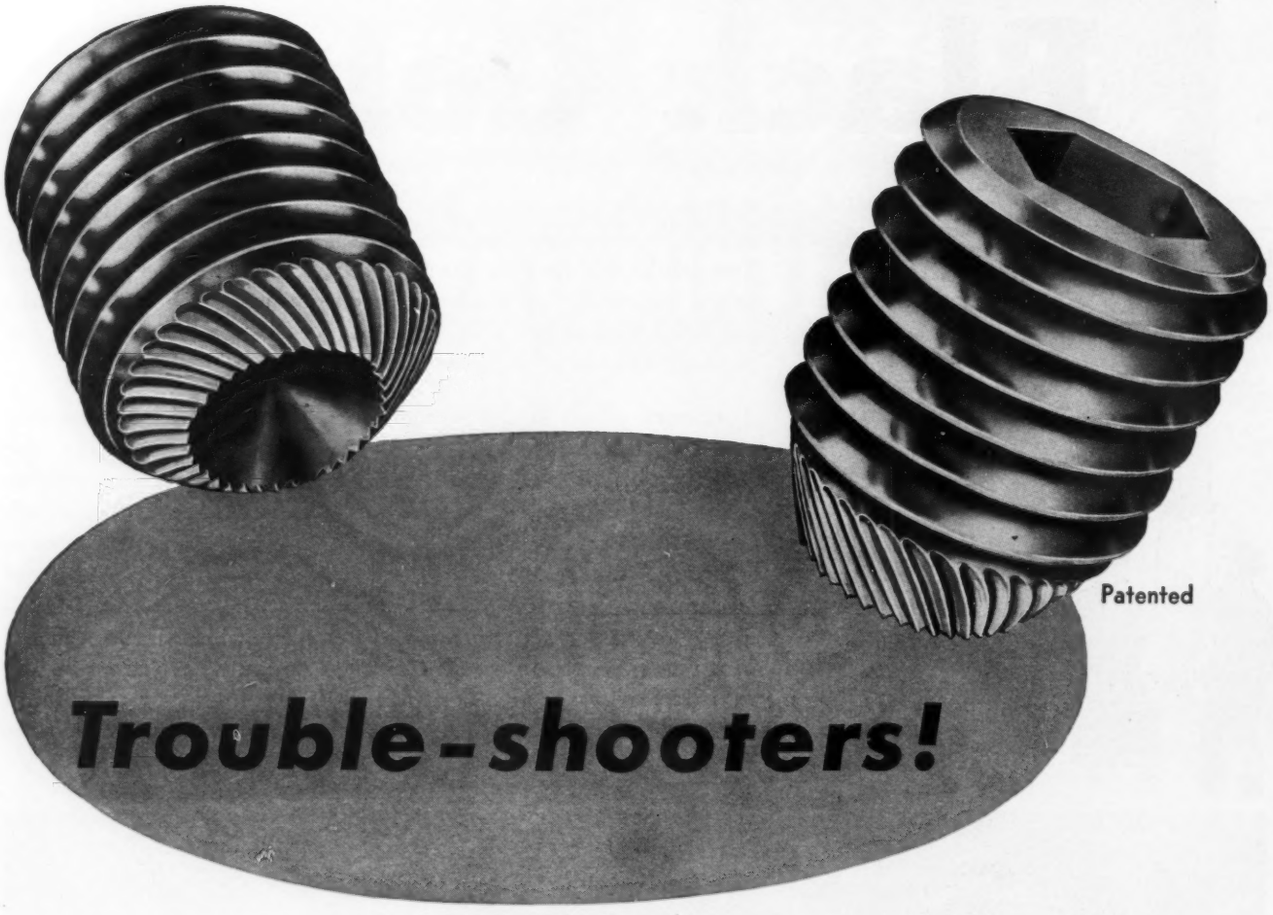
The story of oil is the story of our whole modern industrial age — a drama of gigantic growth and development. In the refining end of this great petroleum industry, Mathieson Chemicals play an important part — caustic soda and soda ash as treating reagents, bicarbonate of soda for fire-foam systems, ammonia for refrigeration and for combatting corrosion of equipment, chlorine and hypochlorite for sweetening distillates, for water treatment and for general sanitation. Thus Mathieson products, you'll be proud to know, are contributing in many ways to the continuing development of petroleum in its ever widening service to this nation's industrial life.



MATHIESON CHEMICALS

SODA ASH . . . CAUSTIC SODA . . . BICARBONATE OF SODA . . . LIQUID CHLORINE . . . BLEACHING POWDER . . . HTH PRODUCTS . . . AMMONIA, ANHYDROUS and AQUA . . . FUSED ALKALI PRODUCTS . . . SYNTHETIC SALT CAKE . . . DRY ICE . . . CARBONIC GAS . . . ANALYTICAL SODIUM CHLORITE

THE MATHIESON ALKALI WORKS (INC.)
60 E. 42ND STREET, NEW YORK, N. Y.



Trouble-shooters!

JUST set them up with no more than average effort, and the ingenious knurled cup points automatically lock into place with vibration-defying tenacity. Once in place, "Unbrako" Self-Lockers simply can't rattle loose no matter how severe the unwinding tendency. They *stay set!*

And this *unfailing ability to stay set* insures freedom from the common and expensive troubles caused when ordinary set screws work loose. Equip with "Unbrako" Self-Locking Set Screws and you'll enjoy trouble-free operation of your machinery . . . you'll enjoy the savings in maintenance costs they permit.

Remember too, that, in spite of their grip when in place, "Unbrako" Self-Lockers are easily applied, as easily adjusted or removed, and they can be used over and over again indefinitely — always with the same dependability.

Maintenance men in some of the largest and best known textile mills in the country think so highly of the "Unbrako" Self-Locking Set Screws that they are now using no other. Why not send in for catalog and samples? —discover how easy it is to cut down your own maintenance costs and prevent breakdowns by specifying "Unbrako".

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNA. BOX 582

— BRANCHES —

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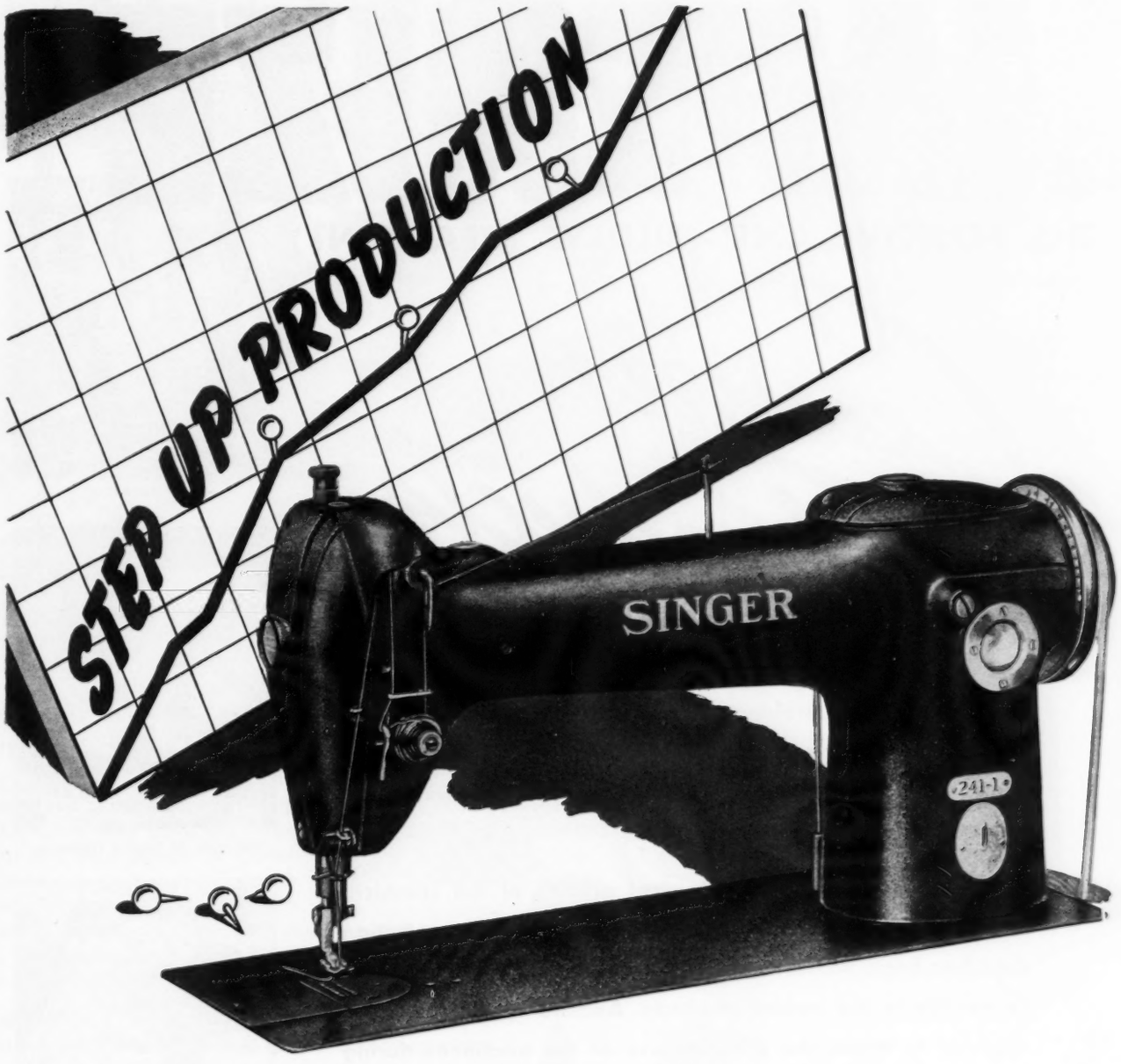

with the Singer Class 241

The new Singer Class 241 machines are automatically lubricated by a forced-feed lubrication system much like that used in fine cars. Oil under pressure is sent through the hollow arm shaft, protecting every moving part with ample lubrication.

The Singer Class 241 will step up production in your plant because of its higher speed and, because hand oiling is unnecessary, operators can devote all their time to production.

Another important feature of the 241 is "Superfinished" bearings of microscopic smoothness, bored and aligned with utmost accuracy. They insure a perfect oil film resulting in quieter-running mechanism which withstands severest use and gives lasting service.

Test the Singer Class 241 machines in your own plant on your own work. There is no cost or obligation. Contact the nearest branch of The Singer Manufacturing Trade Department, or mail the coupon for complete information.

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Singer

SEWING MACHINE COMPANY

MANUFACTURING TRADE DEPARTMENT

149 BROADWAY, NEW YORK, N. Y.

Branches in all principal cities

SINGER SEWING MACHINE COMPANY
Room 717A, 149 Broadway, New York, N. Y.

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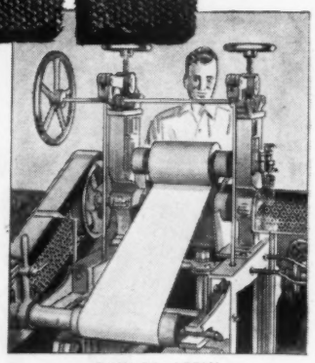
Street_____

City_____

NAPENIZE

(THE POSITIVE ANTI-MILDEW TREATMENT)

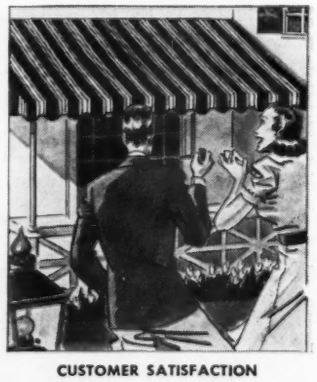
Canvas Products



EASY TO APPLY

NO LOSS OF TENSILE STRENGTH

INEXPENSIVE TO BUY



CUSTOMER SATISFACTION

Mildew attack is a problem that need no longer bother canvas processors. A new anti-mildew treatment, NAPENIZE,* has been developed to give canvas products positive anti-mildew protection.

When you NAPENIZE, the physical affinity of the chemical compound to the cloth assures a more permanent protection than has been possible before and, consequently, gives far longer life to the treated products. And no waterproofing is required to retain the effectiveness of the treatment during exposure to the elements.

Because this treatment is easy to apply and low in cost, it is of vital interest to all manufacturers of canvas products. For complete information and specifications write to Dow today.

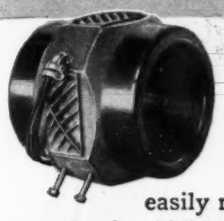
DOW

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

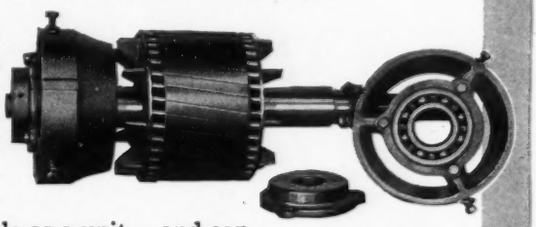
Branch Sales Offices: New York, St. Louis, Chicago, San Francisco, Los Angeles, Seattle

*Pat. applied for

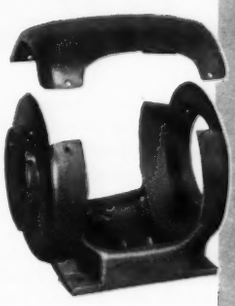
MONEY SAVING FACTS ON QUICK-CLEAN MOTORS



NO LINT OR FLY CAN ADHERE to the Quick-Clean's smooth, hard stator surfaces — a big factor in making these motors lint-proof and fly-proof. All working parts are dust-sealed. The stator, rigidly supported on the motor base, is easily removable . . . interchangeable. Note how coils are completely shielded — another important Quick-Clean feature.

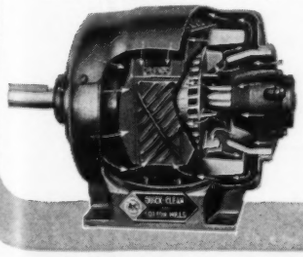


INDESTRUCTIBLE ROTOR is mounted on ball bearings in sealed cartridge units that keep oil in . . . keep dust out. The Quick-Clean Rotor is silver brazed . . . and is rigidly supported on the base. Like the stator, the rotor is also removable as a unit . . . and can be interchanged readily. These rotor features combine to give long life . . . lowest possible maintenance.



RIGID FOUNDATION for Stator and Rotor is provided by the one-piece steel base and bearing support. Points of support for stator and rotor are accurately machined at one setting, insuring uniform air gaps. Extra protection is given the stator by an easily removable cover plate.

HERE'S THE QUICK-CLEAN PRINCIPLE! Dust-laden air drawn into motor is ejected at sides. Air passages are large and unobstructed . . . and all inside surfaces are glass-smooth, making it impossible for lint or dust to adhere. In Quick-Clean Motors you get full-measure construction throughout . . . extra-value performance that's bound to save you money!



A 1212

Allis-Chalmers Quick-Clean Motors are Tailor-Made to Beat Textile Motor Problems! Get the Facts . . . Today!

In the textile industry, motors face conditions that are different from all other industries . . . conditions that stop ordinary motors . . .

That's why textile production men everywhere are SWITCHING to Allis-Chalmers Quick-Clean Motors! For here are motors that are designed from the ground up for one purpose only — ***to help textile men beat the lint problem . . . prevent shutdowns . . . stop power leaks!***

And what a job they do! Thousands of Quick-Clean Motors are already in operation in hundreds of modern mills all over the country . . . setting new standards of dependable, low-cost motor performance for textile mills!

If you want to find out how to beat the most severe lint and dust conditions . . . do a better job of driving spinning frames and other mill machinery . . . and at the same time actually make important savings in power costs — get the Quick-Clean story . . . and get it today!

There's a trained engineer in the district office near you. Call him in . . . let him show you how Quick-Clean Motors can save money for you. Or write direct to Allis-Chalmers, Milwaukee, for complete facts.

Over 90 Years of Engineering Superiority Work for You When You Specify Allis-Chalmers!

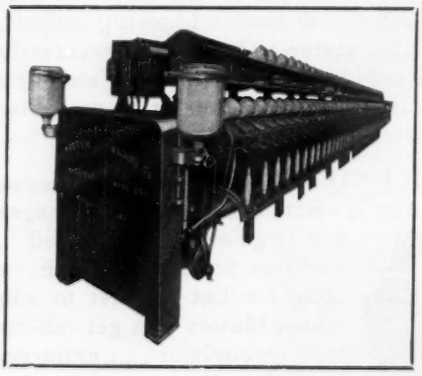
ALLIS-CHALMERS

MILWAUKEE · WISCONSIN

this attachment
PERMITS CONTROLLED PERCENTAGES OF YARN CONDITIONING

The Moisture regain is controlled in three ways:—by the direction in which the roll turns, i. e., with or against the yarn; by the speed of the roll; and by the level of the solution in the trough. This level is regulated by the height of the bottle reservoir.

This attachment is particularly useful in the preparation of yarns for Knitting, and in softening dyed and bleached yarns for all purposes. ALL TYPES OF SOFTENING SOLUTIONS CAN BE USED IN THE MODEL 102 CONDITIONING EQUIPMENT WITH PERFECT WINDING RESULTS.



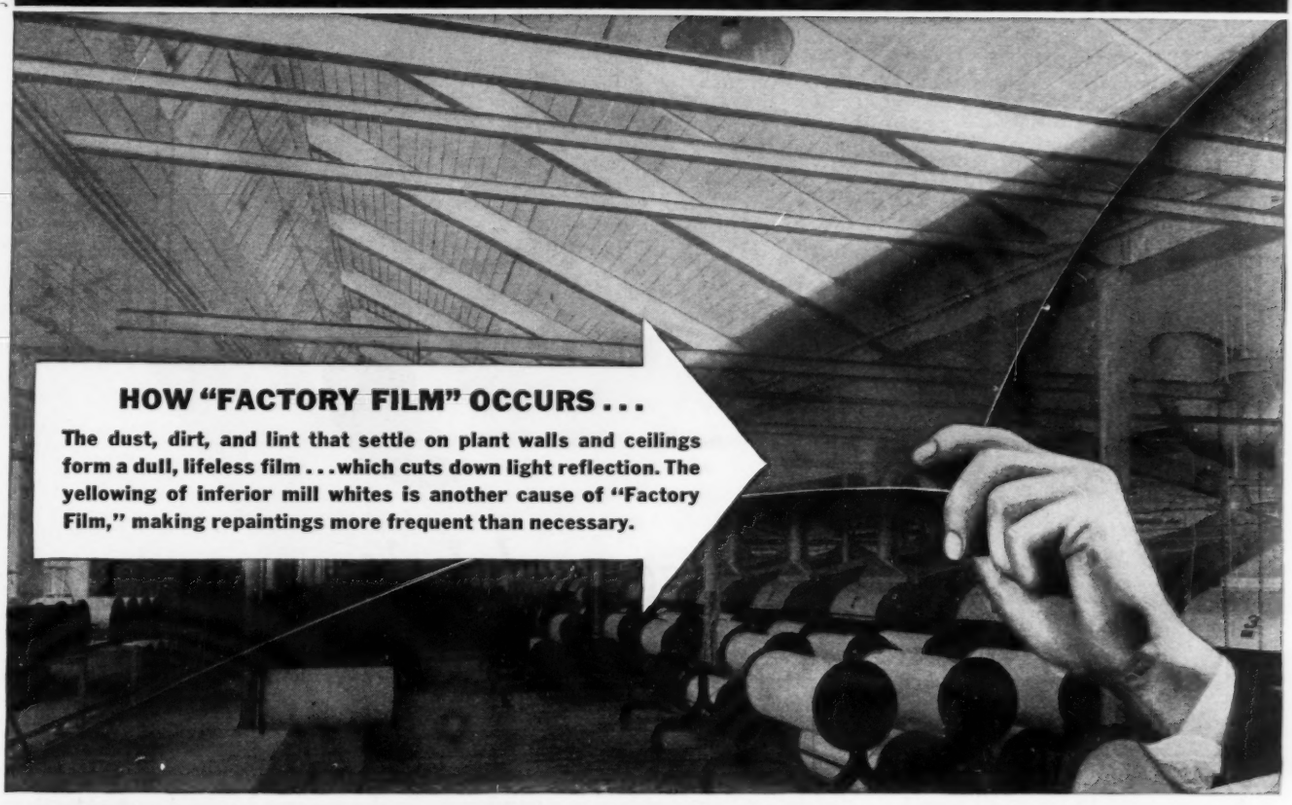
★ **CIRCULAR A-94 ON REQUEST**
FOSTER MACHINE COMPANY
WESTFIELD, MASS.

Southern Office:
Johnston Bldg., Charlotte, N. C.

FOSTER MODEL 102
YARN CONDITIONING ATTACHMENT for Cotton, Mercerized, Woolen, Worsted and Merino Yarns

GET RID OF "*Factory Film*"

WITH NEW DULUX HIGH-HIDING MILL WHITE


HOW "FACTORY FILM" OCCURS . . .
The dust, dirt, and lint that settle on plant walls and ceilings form a dull, lifeless film . . . which cuts down light reflection. The yellowing of inferior mill whites is another cause of "Factory Film," making repaintings more frequent than necessary.

DULUX . . . THE MODERN WAY TO CHECK "FACTORY FILM"

DULUX High-Hiding Mill White reduces formation of "Factory Film" to a minimum because its hard, tile-smooth surface offers dirt no foothold. It is easy to keep clean. DULUX gives maximum light reflection. Its tough film resists yellowing, making repaintings few and far between.

DULUX *High-Hiding Mill White*
Makes one-coat jobs possible!

Du Pont developed a method of *increasing the concentration of high-hiding pigment particles in suspension . . . while maintaining an unusually good spreading rate.* This stepped-up hiding power is so intense that DULUX often does the job with ONLY ONE COAT!

This means new lows in economy. For you need fewer gallons per job, and labor costs for application are substantially reduced. And most important of all, DULUX means *speed* in application. The paint crew goes over your walls and ceilings *once* instead of twice . . . and the job's done.

DULUX is a mill white of brilliant, uniform whiteness . . . gives maximum light reflection . . . has amazing whiteness retention . . . and is washable. Send in the coupon for full details.

DU PONT
REG. U. S. PAT. OFF.

DULUX
REG. U. S. PAT. OFF.
HIGH-HIDING MILL WHITE

E. I. du Pont de Nemours & Co. (Inc.), Dept. C-120
Finishes Division, Wilmington, Delaware

Please see that I get complete information about DULUX High-Hiding Mill White—and your new booklet.

Name.....

Address.....

City.....State.....

POSITION WANTED
"Go-getter" salesman wants job with manufacturer. Excellent appearance and good talker. Has fine "contacts" and controls large volume of business. References cannot be furnished but a trial will convince you.
DAILY STAR
Box 222

Of course you wouldn't answer that Ad...

WHEN you hire a salesman you want to know all about him. In evaluating his ability you will use the same standards that you and other employers have adopted in building successful sales organizations. His references must be genuine and cover the points that bear upon his probable value to your business.

Buying advertising in business papers is like hiring salesmen. The publication is the salesman that takes your sales message to businessmen. Advertisers have also adopted definite standards for measuring the circulation values of business papers. They want to know how much circulation a publication has, how it was obtained, where it goes, who reads it, how much they paid for it and many other facts.

A. B. C. PROTECTS YOUR ADVERTISING

Paid subscriptions, renewals, evidence of reader interest, are among many facts in A. B. C. reports that are definite guides to effective media selection. When you buy space in A. B. C. publications your advertising is safeguarded by audited circulation. Always ask for A. B. C. reports.

This essential information is found in the reports issued by the Audit Bureau of Circulations, a cooperative and non-profit association of advertisers, advertising agencies and publishers.

This publication is a member of the Bureau in order that we may cooperate with advertisers by submitting to them our circulation facts and figures in A.B.C. reports—verified information that enables advertisers to select the right media with assurance that they will get what they pay for.

COTTON

Member of the Audit Bureau of Circulations ABC *Ask for a copy of our latest A.B.C. report*

A. B. C. = AUDIT BUREAU OF CIRCULATIONS = **FACTS** AS A MEASURE OF CIRCULATION VALUES

Pawtucket Rings *with* Vitritex finish

Pawtucket Rings are made by an exclusive process. The Vitritex Finish is of glass-like smoothness, highly-resistant to tarnish and almost impervious to wear. Even when newly installed, production can be started at normal speed, for no customary "breaking-in" period is necessary.

A trial installation, even on one frame, will show you why Pawtucket Rings give your travelers a "turn for the better" —reduce replacement costs and improve quality.

PAWTUCKET SPINNING RING CO.
(Subsidiary of Saco-Lowell Shops)
CENTRAL FALLS, RHODE ISLAND

CUT OUT AND KEEP THIS INFORMATION FOR PERMANENT REFERENCE

This is number 5 of a series. Here you will find practical information of interest to users of rings

Although the character of the ring surface has an important effect on the operation of the spinning frame, there are other factors equally important: Namely, the diameter of the bobbin used with a given ring and the material, weight and design of the traveler. One can readily see that no matter how smooth the surface of the ring or how carefully the traveler has been selected, if the strain on the yarns causes frequent and excessive breakage the operating efficiency of the spinning room is quickly and seriously affected.

To avoid excessive yarn strain and resulting breakage it is important that the angle of yarn pull (Fig. 1, — C-2) be not less than 21° for yarns with high twist. Other factors being the same, the lower the twist the greater the need for a larger angle of yarn pull. How to quickly calculate the angle of yarn pull is explained in Fig. 1. In Fig. 2 is shown the calculated diameters of bobbins which with a given size of ring will result in angles of yarn pull ranging from 21° to 27°.

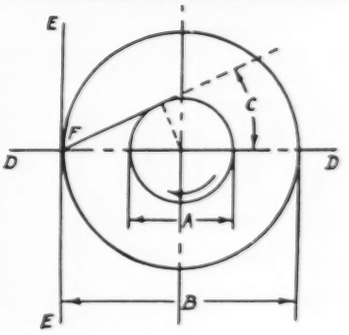


Fig. 1

Draw two concentric circles, one representing the ring diameter (B) and one the bobbin diameter (A). Draw a straight line (D) through the center of the circles and a line (E) at right angles to this line and tangent to the circle; line (F) drawn from the point of intersection of the two straight lines tangent to the circle representing the bobbin diameter indicates the yarn passing from traveler to bobbin. The angle (C) or angle of yarn pull can easily be measured with a protractor.

A method for calculating this angle quickly is based on the trigonometric relation existing between the diameter of the bobbin and that of the ring. By dividing the diameter of the bobbin by the diameter of the ring, the sine of the angle of pull is obtained. Referring to a table of trigonometric functions, the angle of pull can be quickly determined. For example, assume that the bobbin diameter is .875", ring diameter 1.75", then .875"/1.75" equals .50. The angle whose sine is .50 is 30 degrees.

(Fig. 2) Table showing practical ranges of bobbin diameters in inches . . . for different ring sizes

Size of Ring	Angle C 21°	Angle C 23°	Angle C 27°	Size of Ring	Angle C 21°	Angle C 23°	Angle C 27°
1⅛"	.403	.440	.511	2	.717	.781	.908
1¼"	.448	.488	.567	2⅛"	.762	.830	.965
1⅜"	.493	.537	.624	2¼"	.806	.879	1.021
1½"	.537	.586	.681	2⅜"	.851	.927	1.078
1⅝"	.582	.635	.737	2½"	.896	.977	1.135
1¾"	.627	.684	.794	2¾"	.986	1.074	1.248
1⅞"	.672n	.732	.851	3	1.075	1.172	1.362

$12,000 CAME WALKING IN THE DOOR

AN ACTUAL EXPERIENCE OF ONE PLANT THAT CALLED IN A C.P.P. TECHNICAL MAN

"A Colgate-Palmolive-Peet man visited our plant and made a careful survey of our rayon processing formula. He said he thought it possible to reduce processing costs.

"On his advice, we ordered 25 barrels of his product for a trial run. We felt this quantity would provide a fair test of his suggestions in processing our rayon fabrics.

"We processed some 750,000 yards of goods with the new C.P.P. formula—and found soap costs were down 30% to 35%. This is an actual yearly saving of about $12,000.00."

C. P. P.'S FREE CONSULTING SERVICE MAY BE ABLE TO SAVE YOU MONEY! ASK YOUR C. P. P. MAN TODAY!

This is an actual case history. It is just another example of how quality soaps plus proper application can reduce costs.

No matter what your processing requirements may be, in the complete line of C. P. P. products you'll find washing and wetting agents to exactly fit your own special needs.

C.P.P. processing agents in most cases cost less to use than many so-called "special" products because of the volume in which they are produced. Ask your C.P.P. man for full information. Or write direct to us—no obligation, of course.

COLGATE-PALMOLIVE-PEET CO.

INDUSTRIAL DEPT., JERSEY CITY, N.J.

COTTON
SERVING THE
Textile Industries

DECEMBER, 1940
Vol. 104 No. 12

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IN THIS ISSUE

Editorial—

After All: WE Must Pay It 57

General and Technical—

Berkshire Safety Record, by Henri F. Horn 59
Controlling Cloth Weight at the Slasher 61
Pepperell Clinic at Opelika Plant 62
Color Fastness on Spun Rayon, by Henry F. Herrmann 64
Alabama Men Discuss Carding and Spinning 66
Tests on Rain-Grown and Irrigated Cotton 70
N. C. Mill Men Meet at Pinehurst 71
Material-Handling Methods Discussed at Durham STA 72

Current Textile Topics—

Talk of the Month 75
Textile Highlights, by Henry McCarn 76
"The Situation", as seen Across an Executive's Desk 77
New Textile Publications 78
Comment on the Cotton Market 80
Timely News Items with a Textile Slant 82
What the Southern Mills are Doing 84
Rayon Production Figures 84
New Equipment and Materials 86
Personal Notes About Men You Know 94
An Old Timer Says— 97
Shorts and Remnants 55

How Other Men Manage—

Care of Card Grinding Equipment 101
Eliminating Wasted Effort in the Cloth Room 101
Spooler Knots in Belt Duck 102
Cause and Remedy for Broken Quills 104
Weavers or Battery Hands (to Fill Batteries) 106
Clean Card Web 108
Causes of Reed Stripes 108

Knitting Section—

Finishing Circular Knit Goods (Article 4: Dyeing the Goods) 115
The Komet Machine (Article 1—The Knitter and the Komet) 120
Full-Fashioned Machines on Wood or Concrete Floor 122
Streaks in Full-Fashioned 122
Trends and Highlights of the Knit Goods Markets 127
Forecast 128
An Eye on the Knitting Mills 132
Trends—Yarn Markets 134

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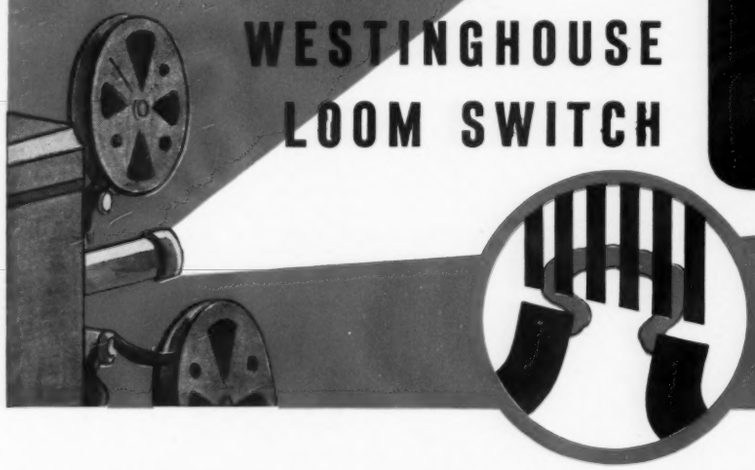
ABC ABP

WE MADE MOVIES OF AN ARC

TO SHOW YOU HOW "De-ion" PROTECTS CONTACTS IN THE WESTINGHOUSE LOOM SWITCH



2,000 PICTURES PER SECOND

Illustrated above is one of the pictures taken at a speed of 2,000 photographs per second by a high speed camera. It shows exactly what happens to an arc in the "De-ion" arc chute. At the left is shown a diagram of "De-ion" action.

Until Westinghouse took movies of an arc showing the "De-ion" arc quencher in action, no one, including the scientist who developed the "De-ion" principle, had ever seen *exactly* what happened to the arc. Under the eye of the high speed camera, it was possible to see for the first time how "De-ion" saves contacts. The pictures showed that the instant the arc was formed it was immediately drawn into the arc chute away from the contacts, and snuffed out. These pictures showed why contacts in the Loom Switch have longer life—how "De-ion" prevents dangerous arc flashes—advantages that pay dividends in reduced maintenance and greater safety.

Other advantages of the Westinghouse Loom Switch include: Bi-Metal protection against overloads • foolproof safety lock • indicating handle • easy installation • small, compact design.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
East Pittsburgh, Pa.

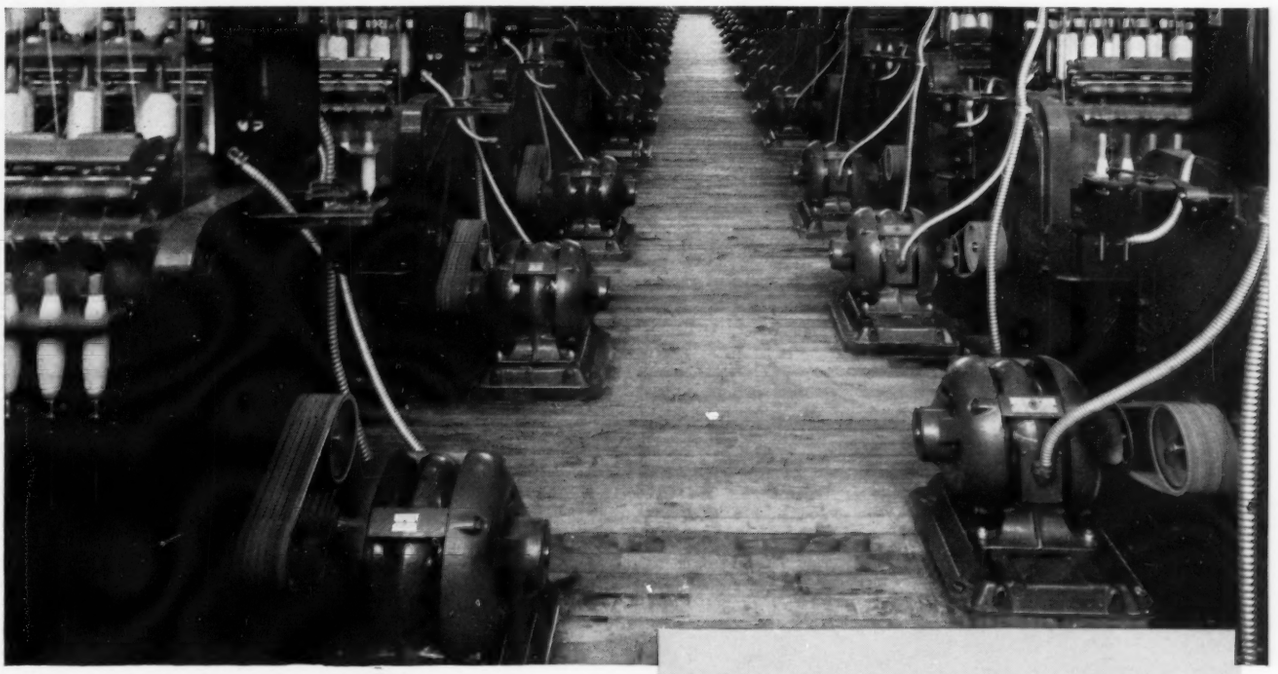
J-21091-A

WESTINGHOUSE LOOM SWITCH

The motor starter for motors up to 7½ hp. "On," "Off" and "Tripped" positions clearly visible.

Westinghouse Loom Switch

W WESTINGHOUSE ELECTRIC



LINT WON'T CHOKE THESE MOTORS

and here's why!

Unobstructed Passages Let Air Circulate

Air passages in the Westinghouse lint-free motor are exceptionally large. The inner surface of the end brackets is sanded, filled and finished glass-smooth with a high-gloss enamel. Pockets and corners have been completely eliminated. Lint goes in, through, and *out*.

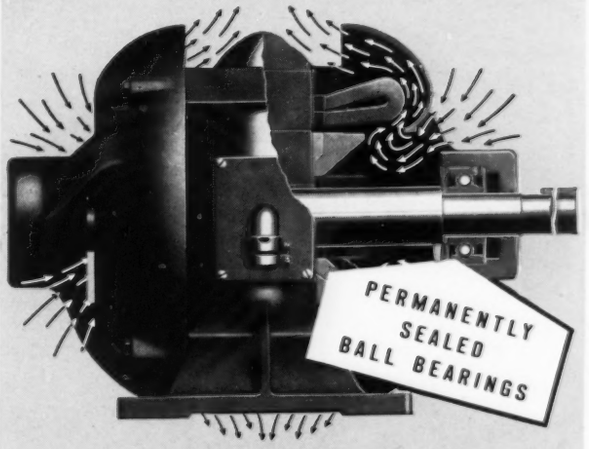
Permanently Sealed Ball Bearings Prevent Over-greasing

Sealed bearings permit the use of a smooth, rounded bearing housing without grease fittings or other projections on which lint might catch. And with no external lubrication required, over-greasing and the use of dirty or improper lubricant is eliminated. Furthermore, with no bearing maintenance required, there is no chance for drops of grease or oil to collect and provide spots on which lint can stick.

Even the windings are finished smooth as glass to prevent lint from gathering.

Less Maintenance—Better Production

And so—with air passages that clean themselves and bearings that need no lubrication—your maintenance is next to nothing. You do less work on the motor and the motor does more work for you. Ask your Westinghouse representative for complete details about this motor that has been especially designed and built for the textile industry.

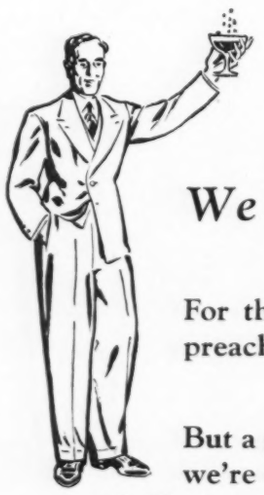


Note the large, unobstructed air passages and compact construction of the sealed ball bearings. Westinghouse engineers have taken full advantage of every construction detail that would help to make this the cleanest running textile motor available.

J-21115

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

Westinghouse Lint-Free Motors



THIS MONTH

We Lay off That 'Stuff...

For the past eleven months we've been preaching Dyestuffs - - and CIBA, of course.

But a glimpse at our desk calendar shows we're down to the last month of the year and Christmas is practically in our midst.

So, at this Merry Christmassy time of year we'll lay off the sales talk and say a bit regarding —

Plum Pudding and Prosperity
to all our good friends and
customers for the coming year.

We want to take this opportunity to thank you for the confidence you have placed in us, and for your loyalty to us . . . and here's a toast:

May our friendship through the New Year ring as true as through the last . . . our ambitions just as sincere in the future as in the past.

And to this toast we've given, may we stop to add: "May you have the joy of living the best year you've ever had."

Cordially yours,

THE CIBA
COMPANY

SHORTS AND REMNANTS

"Building Linters Bleachery"

"We would like to obtain an estimate for a complete linters bleaching plant, with a 24-hour capacity of about 22,000 lbs. cleaned bleached linters to be used for the manufacture of rayon and other synthetic fibre. Would you be good enough to mention the name and address of one or two firms—machine builders or consulting engineers specializing in this branch—experienced in designing and building such plants?"

J. W. SCHNEIDER
American Patent Development Corp.
New York, N. Y.

◆

"Page 56, November 1940"

"I am naturally seeking knowledge on the processes of sanforizing. I have tried to get information at our local library, but without success."

HORACE R. KABLE
Waterville, Me.

◆

Taking Off Picks

"I noticed an article on Page 57 in the September issue of COTTON discussing a new way of taking off picks. We are quite interested. . . . "

N. G. HARDIE
Gen. Supt. Gossett Mills,
Anderson, S. C.

◆

Which End Are You Using

Picked up at random—"God gave man two ends to work with; one to think with and one to sit on. A man's success depends on which end he uses. It's just a case of Heads you win and Tails you lose."

◆

C. & K. Ads Win Award

Crompton & Knowles Loom Works, Worcester, Mass.—John Richardson, Adv. Mgr. —and Sutherland-Abbott Agency of Boston, gained singular recognition among business paper advertisers at the annual meeting of the National Industrial Advertisers' Association. The above plaque was awarded to this advertiser for a series of nine advertisements appearing in *Daily News Record* featuring the replacement of obsolescent machinery in textile organizations.

MERRY CHRISTMAS— HAPPY NEW YEAR!

As another year draws to a close, "Shorts & Remnants" wishes its readers and friends the best of Christmases and a happy and prosperous 1941. We are joined in these Yuletide greetings and best wishes for continued growth during 1941 by all of "Cotton's" staff including

Mr. W. R. C. Smith, publisher of "Cotton" for 35 of its 42 years of service to the textile industry.

"Captain Dick", chairman of the board of the W. R. C. Smith Publishing Company, came to Atlanta in 1905 to found the company which now publishes—in addition to "Cotton", "Southern Automotive Journal", "Southern Hardware", "Electrical South", "Southern Power & Industry. He has been a leader in Rotary, in civic affairs, and in the building of trade and industry throughout the South.

◆

1934 Knitting Article Still Going Strong

"We have had a number of requests for your article entitled "Eliminating 'Washboard' Effects in Manufacturing Ringless Hosiery" which was published in the December 1934 issue of your magazine. This article is quite complete and instructive. If reprints are available, I shall appreciate your sending me about 10 copies."

E. M. SCHENKE
Director of Research,
National Association of Hosiery Mfrs.
Washington, D. C.

". . . I would like very much to obtain a reprint of that article ("Eliminating 'Washboard' Effects in Manufacturing Ringless Hosiery" Dec. 1934) if it is available, and additional information on that subject."

ADOLPH BLUM
Interstate Hosiery Mills,
Lansdale, Pa.

◆

"Loom Fixing"—$1.00

"We are starting a loom fixers class here and would like you to inquire if you have any reprints of the loom fixing articles which appeared in your magazine and if so, how much they would cost in 25 lots."

A. S. THOMAS
General Supt.,
Werthan Bag Corp.,
Nashville, Tenn.

"We Are On Our Way, Mr. Winget"

" . . . I suppose that newspaper men either draw so much money at present that they need no social security, or so little that a fund for them would not quickly be built up. Better come to North Carolina to live, where we have more than $14,000,000 to our credit at Washington. $8,000,000 have already been paid to claimants. 'Ain't it grand'?"

H. G. WINGET
Supt. Textiles-Inc., Gastonia, N. C.

◆

"Back Copies"

"Will you please send me copies of the issues No. 4 and No. 5 of Volume 104 of the magazine COTTON. I presume these will be the issues for the months of April and May of the current year."

A. W. DROBILE
V. P. Glenside Mills Corp.
Skaneateles Falls, N. Y.

"Will you please send me a copy of COTTON for May 1940?"

BILL HENSON
Purchasing Agent, Stonecutter Mills Co.,
Spindale, N. C.

◆

We Solve Problems (Textile)

"Approximately a year ago, we asked for your assistance in helping us to solve a problem in connection with the corrosion of needles. The results were so beneficial that we are taking the liberty of calling on you once more. . . . "

L. R. WHITCOMB
The Torrington Co., Ltd.
Bedford, Quebec.

◆

"Add Orchids"

All credit to the Dayton Rubber Mfg. Company and to the Geyer, Cornell & Newell Agency for their unique tie-in with the national election in the October red, white and blue advertisement featuring the Elephant and Donkey. Appearing at the height of the recent campaign and followed by a direct mail piece with a similar tie-in, this campaign elicited much favorable comment.

◆

Cross-Index of 1940 Articles Appears in This Issue

A COMPLETE cross-index, by subjects, of all of the articles appearing in "Cotton" during 1940 (including those in this issue) is sent to all readers as a supplement to this issue of the magazine.

Such an index has been printed separately, and furnished to several hundred readers who preserve their copies of the magazine, for a number of years.

It was decided to make this additional service available to all readers, so, for the first time, it appears in the magazine itself.

Filed with the year's 12 issues, this index provides a quick and convenient method of looking up any article that appeared during the year. It reveals the extent and amount of material presented, in the year, on each major topic.

We would welcome comments from readers concerning this index.

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STANDARD makes various grades of Silicate for different processes in the Textile Industry!

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T-6

COTTON
SERVING THE
Textile Industries
Vol. 104 December, 1940 No. 12

After All: We Must Pay It

THE UNITED STATES faces the most serious economic crisis in its history. This is an alarming statement, and is not made without a careful weighing of the evidence which supports it.

The South, which has been referred to as the nation's Number One economic problem, can relinquish the title to this dubious honor, because that title now certainly belongs to the National Debt and the policies which have driven it to its present dizzy heights and are destined to drive it much higher. The Secretary of the Treasury has just suggested that the national debt limit should be raised to 65 billion dollars, with no suggestion that this is anywhere near a permanent limit, but merely a convenient limit for covering present appropriations and expenditures now definitely in view. Sixty-five billion dollars represents approximately $500 for every man, woman, and child in the United States. A typical family with three children, living in a home which represents their life's saving can therefore figure that the Federal Government holds a first mortgage for $2,500 on this house, and that the amount of the mortgage may be increased at any time without any voluntary action on the part of the owner. If this family owns no property, but the father has been provident enough to take out an insurance policy, then he may likewise figure that the Federal Government has a first lien in the amount of $2,500 on this policy, and if the policy is less than $2,500, that is his tough luck. Of course, practically nobody ever translates the national debt into such intimate terms. Few people indeed understand anything about the national debt, or care anything about it.

BUT WHETHER we understand or care about the national debt, it is there just the same, and its effects on our future daily lives will be much more serious if we do not try to understand it and try to do something about it, than if an intelligent effort is made to rationalize our thinking about it and to keep this debt within such bounds as may be possible. Not only the size of the national debt, but its composition, makes it a most alarming economic threat.

When the current depression started in 1929, the national debt was very largely owed to individual investors, and the bonds representing this debt were almost all of a type that appealed to investors. Consequently, when the depression of 1929 was precipitated, the national debt played a very minor part in that depression. At the present time, the enormous expansion in the national debt has been very largely made by means of loans from banks; insurance companies, and other investing agencies which have not taken these bonds because they wanted to, but because they were practically forced to by the scarcity of good commercial securities, owing to the general dullness of business. This condition has resulted in the Federal Government being able to borrow incredible sums of money at absurdly low interest rates.

Now, just because the United States Government issues a bond, does not mean that the bond is a good investment. No bond, regardless of who issues it, can be considered a good investment unless it pays a reasonable amount of interest, which will tempt an investor to hold it. The interest rates paid on most of our present national debt are so very low that the owners of these bonds can certainly be expected to liquidate them in enormous volume if, and when, there is any improvement in national business demanding capital investment. Of course, there is one school of thought that holds that there will never be any further need for large capital investment, and that the Government must continue to take care of such modest needs as occur from time to time, by making loans directly to industry. If this theory is followed, then Fascism is just around the corner, because in a relatively short time the Government will control all investment.

Assuming, however, that the United States is going to have at some future date a pick-up in its national business, other than the artificially stimulated business pick-ups that we have been having through Government spending, then people are going to want to get their money out of our banks, and it is not quite clear how the banks are going to be able to pay this money to their depositors if the banks' collateral consists largely of Government bonds which nobody would want if there were business opportunities. Furthermore, if individuals owning Government bonds decide that it will be cheaper to sell a bond at 5 or 10 or 15 or even 25 points below par, to invest money in something that looks like it will really pay a profit, that is going to come pretty close to completely disrupting the banking system, because the way our banks are now stuffed with Federal bonds, it hardly seems possible that they could take a serious depreciation in the value of these bonds and still re-

main solvent.

There has been some argument to the effect that the Government bonds should not depreciate in value, yet we saw the Liberty Bonds go down around 20 per cent shortly after the World War, and certainly the Liberty Bond issues were far better bonds than the present issues, because they paid an attractive rate of interest. There seems to be no valid reason to think that Federal bonds will not depreciate drastically as soon as the investors and investing agencies can find something that will pay a better return.

When, and if, this condition is reached, the Federal Government is going to find it almost impossible to carry on re-financing operations. If investors and investing agencies are dumping bonds at much less than par, the Federal Government could only carry on refinancing operations by greatly increasing the interest rate on new issues of bonds. This immediately leads to a drastic increase in Federal expenses, due to the additional interest that would have to be paid. For many years interest on Federal bonds averaged around four per cent, and over a period of several hundred years in Europe, four per cent was considered a fair return on a government bond. Four per cent on 65 billion dollars is $2,600,000,000 a year, which would be a permanent and perpetual charge for interest on the national debt, and represent money that had to be annually dug out of the taxpayers' pockets unless the present practice of borrowing the interest is continued, and everybody knows that it can't be continued.

IF BUSINESS getting better could therefore precipitate a crisis in the national debt, think how much worse matters will be if business does not get better. Just now we are having a big boom in industry, due to the spending of a lot of borrowed money. The more we borrow, the bigger the national debt becomes, and the more interest we are going to have to pay on it. This present business boom will only continue as long as the borrowed money is being spent, or as long thereafter as the inflationary momentum of this spending can keep it going. The longer it goes, the worse the crash will be.

We saw that in 1929. That boom started during the World War and was generated by the spending of 25 billion dollars of borrowed money. The boom exploded in 1929, at which time, it is worthy to note, the national debt had been materially reduced, since the fiscal policies of the Federal Government at that time were radically different from those at present and the pressure was to get the debt down rather than to push it up. Consequently, when the crash did come in 1929, the Government itself was not in a precarious condition as regarded its finances.

Now it is interesting at this point to note that there is a widespread belief, fostered by highest authority, that because the national debt has been borrowed from each other, we don't owe it to any one, and it is a sort of fiscal figment of the imagination. Nothing could be more ridiculous, since if this were true there need have been no collapse in 1929, for did we not then owe all of our debts to each other? We not only owed all of our debts to each other, but had a big foreign credit in our favor, if we could have just collected it. The truth is that we always owe practically all of our debts to each other, but when we can't pay those debts, there is an economic collapse, the seriousness of which depends on the volume of the debts and the degree of inability to liquidate. If an insurance company owns $500,000,000 worth of Government bonds and those bonds depreciate 20 per cent in value, then certainly that insurance company is out $100,000,000, just as surely as if those bonds had been issued by a railroad or a manufacturing concern.

In the 10 years between the close of the World War and the bursting of the inflationary bubble generated by the War, the United States Government managed to diminish its national debt about one billion dollars a year, and the national fiscal policy favored continued debt reduction. At the present time, the nation is committed to a policy which makes it quite impossible to hope for any reduction in the national debt during the present generation. We shall indeed be fortunate if, within the next five or six years, we can even halt its upward trend, because we are at present face to face with a national dilemma in which there is almost complete national unity of opinion. We must proceed with our rearmament program, and until it is fairly complete there can be no hope of halting the increase in the debt.

THE DEPRESSION beginning in 1929 was a typical industrial depression. Too many people had paid too much for too many things, and too much credit had been granted on too little security. A crash was inevitable as soon as the gambling fever subsided to the point where any substantial number of speculators wanted to cash in on their imaginary profits. Owing to the violence of the gambling enthusiasm of the times, the inflation was excessive, and the deflationary period correspondingly painful. However, one thing should always be remembered in considering that depression; it was progressive and continued over a period of several years. Liquidation, while drastic, was relatively gradual. The Government itself was hardly involved, and its credit remained irreproachable.

When the next crash comes, the Government is going to be very directly involved, because banks and other lending agencies are not going to be falling back upon a tremendous variety of commercial securities which they could endeavor to liquidate in an orderly manner as the equities were dangerously diminished. In the next economic crash the one big collateral in practically every portfolio will be Government bonds held at par, and if there is any nationwide and concerted effort to liquidate these Government bonds, we can kiss our banks good-bye, because there will be no possible alternative except for the Federal Government to take them over and arbitrarily regulate their affairs. There will be no orderly liquidation under such circumstances if the banks are relying chiefly on Government paper. The crash can come in a few days and reach its worst in a week, because as Government bonds are dumped, so will the value of bank collateral be diminished. In a typical depression, with a vast variety of paper of different quality in the banks, there is a slow, progressive liquidation, because loans against this security usually represent a relatively

(*Continued on page* 110.)

Berkshire Safety Record

By Henri F. Horn

Supt., King Philip Division "A"
Berkshire Fine Spinning Associates
Fall River, Mass.

FOUR YEARS ago we made a study of our accident record, and found that it could be improved upon by being more systematic in our methods of finding the sources of our accidents and by devising ways and means to eliminate the causes once they were discovered.

We realized that if we were to lower our accident frequency and severity, drastic methods would have to be adopted, and a complete and definite study should be undertaken to find ways and means to establish a record. With this in mind we tackled our problem in a systematic manner, and by constructive thinking, hard work and cooperation of the employees, we now believe we have reached the main objective that we set ourselves to do four years ago.

Here is our safety record for the last four years, which shows what can be accomplished once the subject of safety is taken seriously.

1936—44 lost time with 1278 lost time days
1937—16 lost time with 902 lost time days
1938—Not 1 lost time accident in a full 52 weeks run
1939—1 lost time with 46 lost time days
1940—10 months to date—No lost time

Our plant employs a working force of 1,000 to 1,350 employees, running 2 and 3 shifts in various departments of the plant. Many nationalities make up our employee personnel; among them Portugese, Italians, Polish, French Canadians and Irish. These people are mostly all naturalized American citizens. A great part of them are also native born Americans.

Awards that our plant have won since 1938 are as follows:

1. "Certificate of Merit" for running 251,582 man-hours without a lost time accident, from June 1937 to August 1937.
2. A second certificate of merit for running 500,352 man-hours without a lost time accident from June 1939 to Oct. 1939.
3. A bronze plaque for running 3,012,328 man-hours from Oct. 1937 to June 1939 without a lost time accident.

All the above were awarded to us by the Liberty Mutual Insurance Company.

4. A gold trophy was awarded to us for being the leader in the textile industry in New England for 1938.
5. Another gold trophy awarded to us for being the leader again in 1939.

The above trophies were received from the Massachusetts Safety Council.

We have run so far, the first ten months of 1940, without a lost time accident and have accumulated since June 1939 the total of 3,019,474 man-hours without any disabling or lost-time accident.

In order to accomplish all the above, we had to sit down and do some constructive thinking and planning, therefore I shall now review our procedure and the system of operation that enabled us to attain these fine records:

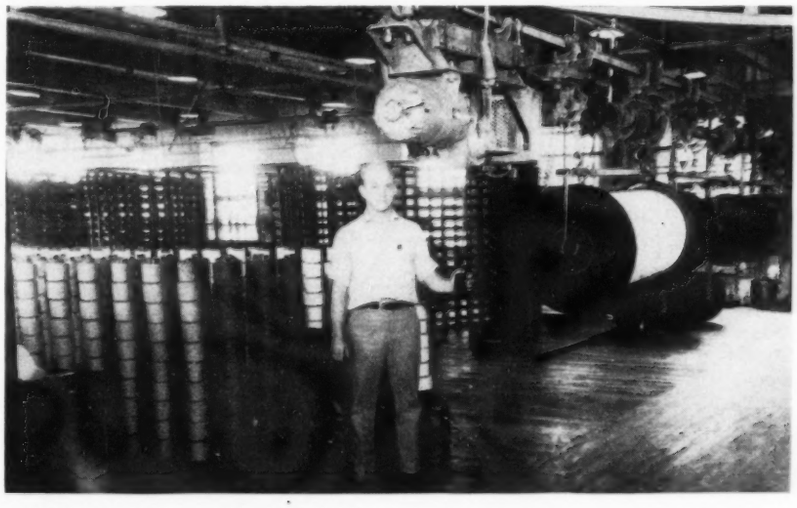
Safety Campaign Procedure

1. We found our first-aid department, in charge of a competent nurse, was being handled very efficiently and records listing causes of accidents, etc., were being kept in a methodical manner, but we also found that the cooperation between the first-aid department and the "key men" in the plant left much to be desired.

Next, a safety meeting was called to discuss the very important subject of relationship between first-aid and overseers. It was shown at this meeting that in order to really get to the bottom of our accidents, overseers should be fully informed of the nature of the accident and then in turn study the causes that led to each accident so that they might suggest a remedy to prevent recurrence. In other words, a thorough study of the injury was to be undertaken by the overseers, and their findings brought before the plant superintendent for consideration and action towards this specific accident and ways and means devised, in each particular case, decided upon to avoid such injuries in the future.

2. The second move was to organize an educational program among our employees in the prevention of accidents. This was accomplished by safety posters, safety films furnished by our insurance company, individual pamphlets for each department of the plant and given to every employee explaining the "Safe Practice Rules" for his department.

Periodic letters of encouragement or constructive criticism are sent out to employees from time to time, these from the office of the superintendent, for it is our opinion that the best possible safety device is a careful and safety-conscious employee, and these letters serve as a



Motor driven overhead materials handling equipment in a Georgia textile plant. Beams are lifted by chain hoist, the electric motor pulling six beams at one time. All operator has to do is press one button to move forward and another button to move backwards. Lifting of heavy beams by chain hoist instead of man power prevents accidents, such as strains . . . . . .

reminder to be careful.

We have kept this very important fact before our employees—that no amount of compensation will alleviate the suffering and misery caused by a careless accident, and that the employee as well as the employer is the loser in the long run.

3. Organization of a safety committee. We believe that our safety committee is unique in its formation and the manner in which it functions. It is composed of only one person per week, and is in operation 52 weeks in the year. Let me illustrate how it works:

The first person appointed is the plant superintendent; next the assistants; then the overseers; then the foremen; then the second-hands; the third hands and thus right down the line. You can see that everybody gets a chance to give his suggestions and new ideas are offered every week. Fig. 1 is the form that we now use and have found very helpful. Fig. 2 is the reverse side of the same form.

4. An efficient system of "good housekeeping" has also been put into effect, and this is checked every week-end by the writer. When some departments have accident hazards,

Beater interlock guards; it is not just a question of having them on the picker—they should be kept adjusted so that beater cover cannot be raised while the machine is running. Many accidents occur at the picker because the beater interlocks are not kept adjusted.

they are notified to remedy that particular situation and to report progress made at the weekly overseers meeting.

5. Finally, suggestions are asked at all times from all employees in the plant in regard to better guards, machines, right ways of handling and piling, etc., and these suggestions have often times prevented an accident.

Our system of accident-prevention shows that no expensive gadgets surveys or campaigns were required to assure us of its success. It required a tremendous amount of educational work from all of us in educating our employees in becoming "safety conscious" and of the dangers of carelessness and also the pride they have in their work.

These records were accomplished by the rank and file of our employees in their earnest cooperation in response to our pleas for a safe and efficient plant. It is common knowledge that if you have a safe plant you also have an efficient plant, you have a full pay envelope, which in turn enables us all to enjoy the fruit of our labors.

This is common sense philosophy that can be understood by the highest and the lowest. We believe this is the soundest and most foolproof method of handling the safety problem and we can also say with truth and honesty that it has produced the results we were striving for, and after all it is the results that count.

LIBERTY MUTUAL
INSURANCE COMPANY

SAFETY ORGANIZATION
SAFETY INSPECTION REPORT
For Use in Industrial Plants

INSTRUCTIONS:—This form is to be used in reporting inspections made by (1) Safety Inspector (weekly), (2) Workmen's Committee (monthly) or General Committee (monthly) as required by the Industrial Compensation Rating Schedule. Reports of Committee inspections should be clearly designated by "Committee inspection" to differentiate them from the Safety Inspector's reports.

Name of Assured _____ Location _____

Date of Inspection _____ Date of Last Inspection _____

Name of
(1) Inspectors _____
or
(2) Committee Members _____

PRINCIPLES:—Since mechanical guards will only prevent a certain class of accidents in industry, emphasis is placed on the fact that the great majority can be prevented through organized safety work reaching every executive, superintendent, foreman and worker. Supplementing this educational work by thorough inspection made by a competent safety inspector and review in general by proper committee work, will greatly aid in the reduction of accidents. As nearly every mechanical and physical hazard can be effectively guarded without interfering with production, each safety inspector or committeeman should continually ask himself in reporting the following items—"Can an accident occur here?"

SUGGESTIONS:—Examine out-of-the-way places looking after the condition of yards, roadways, passageways, piles of material, defective floors, protruding nails and stumbling blocks. See that all guards are in place and in use, bearing in mind that a guard, no matter how efficiently designed, is worthless if out of place. Study the machine point of operation hazard which, in general, represents the greatest single source of accidents from mechanical causes. Remember the following major causes of accidents not due to mechanical hazards: Falls; falling objects, handling tools and materials.

(Please number recommendations consecutively)

	Recommendations	
	Date of Approval	Date Carried Out
(A) FIRE HAZARD: (a) Are all fire fighting appliances, fire escapes, etc., ready for immediate use? (b) Is plant kept free from excess inflammable waste and rubbish? (c) Are explosive materials properly handled and stored?		
(B) FLOORS, FLOOR OPENINGS, WALL AND HOISTWAY OPENINGS: Note conditions of floors; see that floor surface is free from protruding nails, splinters, holes, slipperiness, unevenness and loose boards and that all openings are properly guarded.		
(C) STAIRS: State condition of supports and treads. Note if light is sufficient, if treads are badly worn, nail heads protruding, hand railing complete and in good condition.		
(D) ELEVATED RUNWAYS AND PLATFORMS: Note if in good condition, clear of obstructions and provided with handrails and toeboards.		
(E) PRESSURE APPARATUS: When was pressure apparatus last inspected?		
(F) ELECTRICAL EQUIPMENT: Note condition of switchboard, transformers, wiring and controlling and operating apparatus and see that they are properly protected or isolated.		
(G) POWER TRAVELING (BRIDGE) CRANES: Note condition of footwalk, railing, ladders and safety appliances.		

This report should be kept on file for a period of twelve months and should be available for review by Rating Inspector at all times. Do not lock up or misplace.

E-2015 OVER

Fig. 1

	Recommendations	
	Date of Approval	Date Carried Out
(H) ELEVATORS AND OTHER EQUIPMENT: (a) Note condition of signal system, cables, safety devices, gates, car and shaftway protection, car and landing lighting. (b) Are hoistway gates or doors in good order and are they properly used? (c) Are there any hoistway shear hazards?		
(I) TRANSMISSION EQUIPMENT: Are oiling platforms, ladders, belt, pulleys, shafting protruding, revolving parts and set screws substantially guarded?		
(J) MACHINE HAZARD: (a) State what guards are found not in use and where guards should be provided. This should include all gears, sprockets, chains, belts, pulleys, clutches, shafting, spindles, and all other dangerous revolving or reciprocating parts. (b) Are there any points of operation on these machines where the hazard could be eliminated? (c) Note condition of hoods and safety flanges on abrasive wheels and see that wheel runs true.		
(K) GENERAL CONDITIONS: (a) Is first aid kit properly stocked and kept in proper place? (b) Is there proper light throughout plant? (c) Are goggles, respirators, and congress type shoes required? If so, are they in good order and used? (d) Is material piled or stored in safe manner? (e) State condition of toilet facilities, ventilation apparatus, etc. (f) Note carefully the condition of transporting and elevating equipment used about the plant (g) Note any dangerous condition of hand tools. Suggest methods for eliminating dangerous practices (h) Are acids and corrosives handled and stored in safe manner?		
(L) GENERAL RECOMMENDATIONS (in line with "Suggestions" and not specifically covered in the preceding): Note: This space should also be used to record any improvements brought about immediately as a result of verbal request by the Safety Inspector himself.		
(M) This summary is to be made at the end of each month or other convenient interval not to exceed three months		
I. New recommendations made since last report		
II. Number of recommendations carried out		
III. Number of recommendations now being worked upon		
IV. Number of recommendations on which no action has been taken		

Fig. 2

The above form is used each week at Berkshire for safety inspection . . .

Controlling Cloth Weight at the Slasher

FROM THE TIME the cotton is received at the warehouse until the cloth is loaded into the freight car the product of a cotton mill passes through a series of weighing or sizing determinations. Every department in the mill except one maintains its weight control station. This one can introduce as much or more variation as any other single process, yet in most mills nothing is done to determine this variation and consequently little is done to control it.

This department, of course, is the slasher room. Here the section beams which will generally be found to average within ¼ number of the correct number are still further averaged or doubled by being combined into lots of 6 to 12 or more to make up the desired number of ends. From this point three variables are introduced which trend to vary the weight of the finished product. These are moisture content, dry solids added, and stretch.

Most beams are run with from 7 to 8 per cent moisture left in the yarn. The moisture increase is to some extent offset or averaged by the stretch introduced which lightens the yarn by from ¾ to 1½ per cent. The biggest factor, however, is that of dry solids or sizing added. This may vary from 5 to 20 per cent depending upon type or viscosity of starches, length of cooking time, dilution of starch mix (formula), temperature of size box, condition of blanket, weight of squeeze rolls, speed of yarn, type or character of cotton, and others. This all leads up to the obvious fact that there are many factors in the slasher room which tend to cause variations in the weight of the finished product (warps), that are not at all times under proper control. Also one or more things may be happening to the yarn to cause it to be light or heavy, that are not noticeable to the eye.

Unless some system is devised whereby the beams may be checked for weight, dozens of warps may be made which are over or under weight before the cloth weights show enough difference to warrant an investigation. Even when detected at this stage, filling numbers must be corrected.

Reduced to simple terms the problem resolves itself into three stages — determination of the amount of variation to be introduced, (solids added, moisture added or maintained, and stretch), indication as to whether these conditions are being maintained, and some system of corrections to be made when one or more of these variables exceeds its limits.

In a spinning room one knows that 30s warp is to be made, so the spinner weighs the yarn to see if he is getting 30s. In the slasher room it is also necessary to make weighings to determine if the numbers are correct. In the slasher room with 30s warp plus 12½ per cent dry solids plus 2 per cent added moisture, minus 1½ per cent stretch, we have 13 per cent increase in weight. 30s × 13 per cent = 3.9 numbers. 30s — 3.9 = 26.10s which will be about the warp number to be expected at the delivery end of the slasher. This yarn number multiplied by ends in beam and yards per beam divided by standard of 840 × 26.10s will give the number of pounds the beam should weigh. Since the section beams have a variation of plus minus ¼ number, we may give ourselves at least twice this amount or plus-minus ½ number on the beams as delivered off the slasher. This will cause our limits on 26.10s to run from 25.60s to 26.60s. If we use these weights as our beam limits the same formula given is applied to determine the pound limits within which we are to work. It is best to make up a little chart of the maximum, standard, and minimum pounds for beams of each yardage likely to be encountered. If a full beam holds 1400 yards then the weights should be given for each 25 yards from about 1100 or 1200 yards through 1500 yards. This will cover the beams of average length.

If the tare weight of each beam is painted on the beam head, by weighing the beam full, subtracting the tare weight and noting the number of yards it holds on the tag, one has only to look in the chart under yards to see if the pounds weight of the beam is within the limits set up. If so the beam tag is marked "OK". If it is not within the limits the tag should be marked so as to indicate this and an effort made to determine WHY, and if possible a correction made so that subsequent beams will fall within the limits set up.

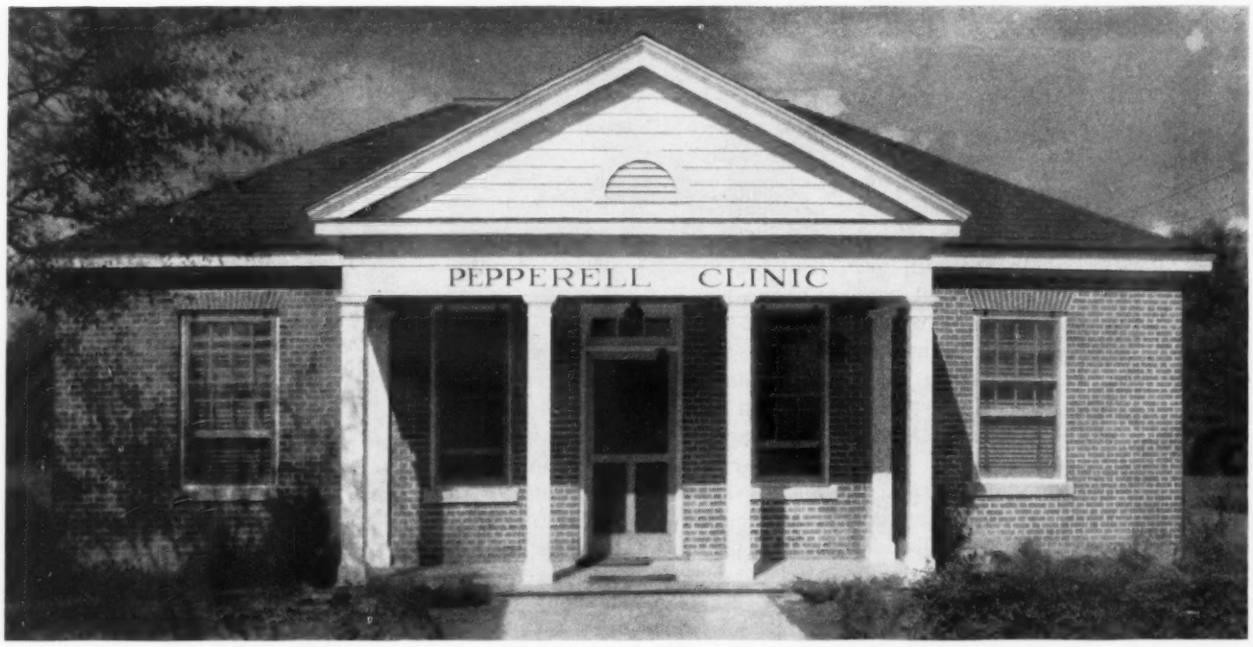
In order to operate such a system, reset yard counters and proper balances or scales would have to be provided to measure and weigh each beam. Also some means of determining stretch and moisture quickly would be necessary. As soon as these two factors were found to be within these limits then the conditions governing size added would have to be checked. Size box temperature, accuracy of duplicating size formula and conditions of rolls and finished blanket would have the greatest effect upon the amount of solids added to the yarn.

If, after checking thoroughly the moisture, stretch, and size conditions, it is found that the *desired conditions exist* on the slasher, then by checking the ends and pounds per beam, the exact number coming off the slasher can be determined and thus set up as a standard from which plus-minus ½ number is allowed.

At first sight this may seem a rather complicated system, but once installed it is almost self-operating. Since the slasher tender is frequently called up on account of bad work, he will be the first to protest when he knows that his beams are weighing light or heavy from some cause unknown to him or beyond his control.

It has been our experience that the frequent weight changes necessary to maintain cloth weights, can be reduced materially.

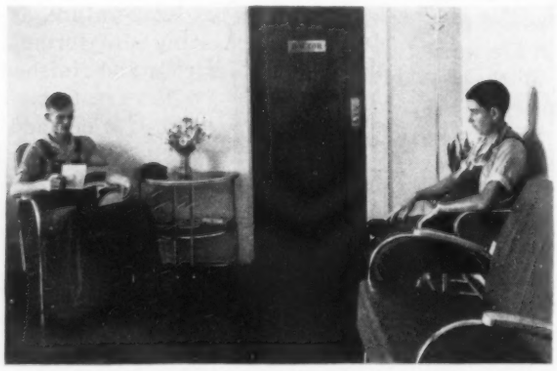
A Pictorial Visit to a Pepperell Clinic



● The medical clinic shown above, at Opelika, Ala., is typical of the clinics maintained at all five divisions of Pepperell Manufacturing Company, at Lindale, Ga., Fall River, Mass., Biddeford and Lewiston, Maine, and at Opelika, where the pictures on this and the following page were made.

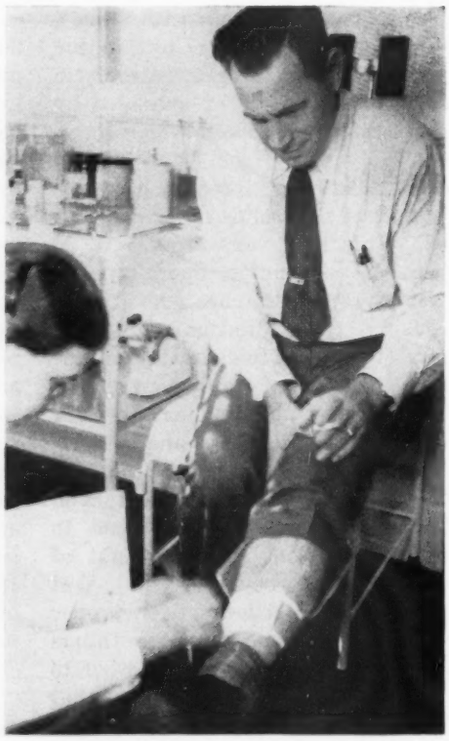
Equipment is not identical in all of the clinics, because needs are not identical, but the following are embraced: first-aid room, laboratory, X-ray room, dental office, sterilizing equipment, and complete records. A physician is in charge of each clinic and is on 24-hour call, with certain office hours at the clinic. Registered nurses are on constant duty to give first-aid to all injuries immediately, whether mill employee or dependent of employee, and the doctor is called in when necessary.

First established to care for injured employees, the service has been extended to cover a much larger field: giving best possible care to the injured or his family, rehabilitation of injured, pre-employment examination with placement of employee on proper job, and physical examinations of old employees, with follow-up work for correction or treatment. Physical examinations are complete and include blood and urine tests, blood pressure tests, etc.



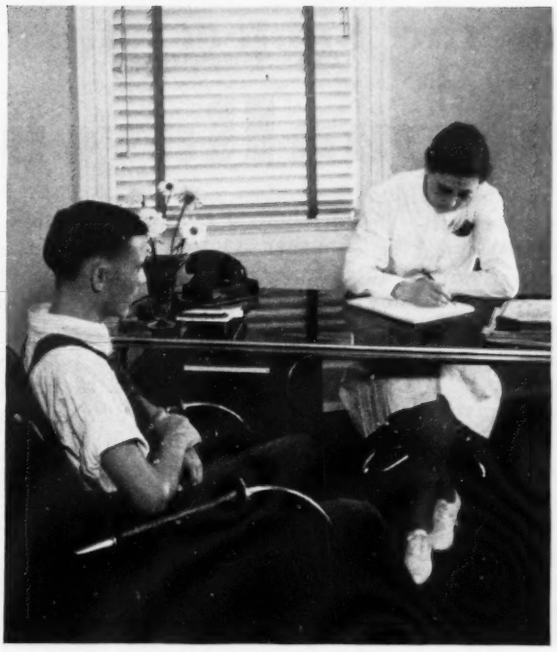
All employees are urged to use the facilities of the clinic. These men are awaiting their turn in the reception room to see the nurse or doctor.

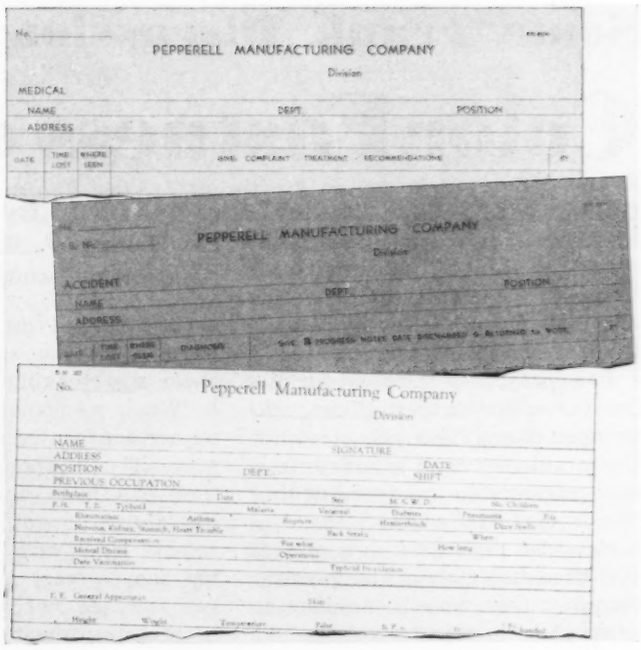
Health of employee's family is important also, and all dependents may be served by clinic staff.



Above, registered nurse giving treatment to slight injury. If serious she calls the doctor.

● The clinics at Pepperell were by no means an "overnight" idea. At Opelika the first clinic was located in the basement of the plant; this modern building was built this year. Equipment is most modern in every detail.





Complete records are kept on the physical examination of the employee made by the doctor, the employee's health record and accident record. All injuries must be reported to the nurse for treatment and recorded in the employee's personal file, kept by the head nurse. Head nurse also keeps records on group life, health and accident and hospital insurance, which is optional with employees.

The nurse looking after village illnesses has a full-time job. She calls at homes of employees, giving medical attention, pre-natal and post-natal care, and teaching hygiene. In case of contagious diseases, the county health department is called in.

All employees must be examined and given certificate before returning to work if they have been absent because of injury or illness.

Pepperell's southern units also have nurseries, where children of working employees may stay during the day. Tots are taught games, fed and put to bed.

Some Frank Discussion on the Subject of

Color Fastness on Spun Rayon

By
Henry F. Herrmann
General Dyestuff Corporation

COLOR FASTNESS in spun rayon fabrics was discussed last month by Henry F. Herrmann, of General Dyestuff Corporation, in a talk before the Textile Square Club of New York City.

In approaching the need for discussion of the subject, the speaker pointed out that the comparative novelty of spun rayons brings new problems to the dyer but that "he is less baffled than the converter who must seek new outlets for these materials or the garment manufacturer who is anxious to apply them to many new uses."

"To the dyer," Mr. Herrmann said, "spun rayons are simply a new form of rayon—an artificial silk in the dyeing of which he has become expert through years of experience. To all intents and purposes he can use the same dyes which he has applied to crepes, taffetas and plain weaves made of continuous filiament rayons. He does not need, he has no new groups of dyes to choose from. This does not mean that he hasn't all the products that are needed to satisfy the needs of the commission house and manufacfacturer; on the contrary, he can offer on spun rayons all the shades and all the fastness properties that are obtainable on ordinary rayon and cotton constructions. Cost is the deciding factor together with a full understanding regarding what is wanted and how much will be paid for the work.

"The very nature of spun rayon is such that is lends itself to many types of garments which can be both attractive in appearance and durable, both dressy and serviceable. They may have the rich appearance of linens but because of their cheapness do not command the price or permit of the same finishing costs.

"Spun rayon fabrics may resemble worsted or silk constructions. The buyers of woolens and silks pay a fancy price for them, know that they are fragile, and treat them accordingly. They are either dry-cleaned or washed in the home with the same care as a sheer silk stocking.

"When we come to spun rayons we are confronted with a different proposition. Though inexpensive, they cost more and do not stand the abuse of cottons. They resemble finer and costlier fabrics but they attract a different market and are not given the same careful treatment. They are expected to be beautiful and yet cheap. The same degree of color fastness is obtainable on spun rayons as on other rayons, cotton and linen, but the manufacturer who is contemplating the use of this material for garments that are to be guaranteed sun fast and wash fast must permit the dyer the same leeway in the finishing price to get the types of colors required as he would on other types of goods.

The 40-and-140 Test

"One hears very often the specifications 40-and-140, meaning that the color must stand an exposure of 40 hours in a standard Fade-Ometer and be washable at 140 degrees F. with ordinary soap. Although a fading test of 40 hours is moderate for sunfast direct colors when applied in medium and full shades, it becomes increasingly severe with lighter shades. In the case of pastel shades, it is necessary to select appropriate colors by making special tests. Where two or more dyes are required to produce a fancy shade, such tests are mandatory because the light resistance of each individual component of such mixtures is no criterion of the permanence of the composite variety.

"Delustered rayons present a severer problem than the lustrous variety. The pigment contained in the former stimulates fading in light shades for optical reasons which the dyer cannot overcome.

"Another factor which contributes to color fading is introduced by the use of so-called cationic active finishing agents, and to some degree also by urea-formaldehyde anti-crease and anti-shrink finishes. Both types of finishes are very much in demand; the former because it imparts softness and a very agreeable "hand" to the goods, the latter because crease—and shrink-proofing are not obtainable in other ways at the same cost.

"Very good dyes are needed to yield 40-hour FadeOmeter resistance in medium and full shades. Extra fast dyes are required for pastel shades under the most favorable circumstances, but when finishes are called for which aggravate fading extraordinary care must be used in the selection of dyes for each shade."

Better Fastness Costs More

Mr. Herrmann showed that the dyer appreciates this problem, and that only he, in co-operation with the service laboratories of the dye manufacturer, can solve it. He emphasized that fastness can be guaranteed, but that it costs more; and that some converters, resisting the greater cost, have their goods dyed with cheaper colors. This, he said, is alright, provided they don't sell these goods with the implied understanding that they are fast, because, though the store may make an adjustment and pass it back to the supplier, it eventually winds up with the dyer, who is thus victimized through no fault of his own.

As to the 140-degree F. washing specification, Mr. Herrmann said, "We must concede that this is a fairly severe test for dark and medium shades, less so for light shades. Although it is a strain on the colors used on spun rayons it is scarcely an adequate criterion of fastness expectancy of many types of garments which are sub-

jected to ordinary laundering. Bear in mind that ½-hour washing in a LaunderOmeter at 140 degrees only just covers the requirements of laundry washing of colored goods and domestic washing machine practice."

The speaker next discussed the various classes of dyestuffs and their suitability for meeting these requirements on spun rayons, concluding that due to limited fastness, application difficulties and limited matching properties, etc., on most of the other classes, the better vats are the logical colors to use, and that the only obstacle to their use is cost.

"Through very careful selection," Mr. Herrmann declared, "a particularly expert dyer can produce this or that shade with cheaper dyes, but cannot offer a complete line including all the prevalent shades at a low price, without running into a questionable color here and there which may later reflect on his entire output."

Are Dyestuffs Guaranteed?

A perfectly natural question, said Mr. Herrmann, is whether dyestuffs are guaranteed, answering it as follows:

"The dye manufacturer guarantees his colors only to be true to type in strength, shade, chemical and fastness characteristics. Since he does not apply them he cannot take any responsibility for the quality of the workmanship involved in their application. He does not control the selection of colors which are used for a given purpose, usually he does not know what the cost limitations are, what promises were made regarding quality, and above all, what latitude is permissible in commercial deviations from such agreements. The burden of answering for the quality of commercial dye jobs must rest with the dyer. Of course we can help him, but we can function only in an advisory capacity.

"It happens all too frequently that a converter gives out work to be dyed with the haziest understanding regarding fastness requirements. He is satisfied by a low quotation and the dyer does not feel obligated to use anything but the products that fit into the price picture regardless of fastness.

"Consider the so-called silk dyers—mostly the ex-silk dyers. Their craftsmanship has always lain in delivering ladies' dress goods only dyed to shade and attractive in finish and hand. Very little attention has been paid to fastness and seldom are fastness guarantees given or implied. Naturally, without these fastness considerations which materially influence dyeing costs they can quote lower prices, and thousands of pieces of spun rayons processed by them lie side by side with the work of manufacturers who have spent real money to impart to their lines the quality which they claim for them and which is considered at least a minimum requirement for their intended use.

"We do not question the benefits of free and open competition, nor dispute the contribution to the textile industry of the silk dyer, but we do maintain that quality differences must not be overlooked in spun rayons any more than in other merchandise. What right has anyone to place a quality label on spun rayons which were processed by some Tom, Dick or Harry Dye Works for price only and without regard to fastness? This practice ruins legitimate trade and will surely bring spun rayons into ill favor with the public."

The Effect of Sports Wear

"Another consideration of the special difficulty of spun rayons which may be added to those already discussed is their prevalent use for men's sports wear; in this respect, colored spun rayons do not exactly replace any other fabric formerly used for this purpose. Golfers' colored two-piece slack suits are supposed to stand the service of white linen or cotton trousers and white woven or knitted shirts, which were washed as hard as necessary to clean them and seldom, if ever, was there a color problem because there was no color. Woolen trousers were sent to the dry cleaner.

"But the spun rayon ensemble is expected to stand the gaff of white cotton. Sports wear, with its severe soiling, perspiration and exposure to sun, and the repeated wetting and drying to intermittent physical exertion, imposes the severest conditions on any kind of cellulosic fabrics.

"A full answer to this problem has not yet been found since some of the finest dyes occasionally fall short of expectations, but this is another argument against the broad guarantee which places no restrictions on fabric use or abuse and constitutes an unjust burden on the dyer who is usually supposed to 'make good'."

The speaker next quoted from a letter written by a foremost manufacturer of spun rayons expressing the belief that washing specifications should be the same on spun rayons for colors to be called fast to light and fast to washing as are specified for cotton and/or linen fabrics, or else they should not be permitted to be sold as guaranteed fast colors. This concern refuses to accept any yardage on spun rayon or blends which were not for dyeing with the best vat colors obtainable. It definitely guarantees spun rayon cloths to be as fast in every case as cottons as the same dyes are used for dyeing the rayons and mixtures as are used in dyeing comparable shades on the cottons.

Mr. Herrmann said that, "A few weeks ago the Textile Fabrics Association made a very laudable recommendation to its members, that converters secure a written statement from their finishers as to color performance of spun rayon fabrics based on laboratory tests. To this there can be no objection; certainly not in the case of the better lines. When it comes to cheap work which has been insisted on by the converter and reluctantly agreed upon by the finisher, a clear understanding regarding fastness guarantees would be very illuminating. Isn't the finisher entitled to equal protection? If he is required to certify to the converter and manufacturer the fastness of his dyes, the latter should also obligate themselves to the finisher to merchandise goods so described in this specified manner and no other, so that his name will not fall into ill repute through misrepresentation and he will not be called upon to satisfy claims for a standard of quality which he was not paid to deliver."

Alabama Men Discuss Carding and Spinning

THE recently-organized Alabama Textile Operating Executives held its first technical discussion meeting Saturday morning, November 9, in Duncan Hall at the Alabama Polytechnic Institute, Auburn, Ala. Nearly 300 mill men and representatives of allied textile concerns attended. Carding and spinning questions were discussed. John P. Baum, assistant manager of Pepperell Mfg. Co., Opelika, Ala., and vice-general chairman of the organization, was in charge of the meeting in the absence of Frank K. Petrea, superintendent, Samoset Cotton Mills, Talladega, and general chairman of the Alabama operating group. Mr. Baum also led the discussion on carding, and Nelson N. Harte, Merrimack Mfg.. Co., Huntsville, led the spinning discussion. The meeting bounded along at a rapid pace due to the excellent manner in which the meeting was prepared and conducted and the response given by the mill men.

Experiences with Oil Spray

The first question asked for the advantages, disadvantages and experiences with oil spray. On a show of hands it was found that about 35 of the mills represented use oil spray on the cotton stock, and only a few of those ever using the system have discontinued the practice. A member reporting for the Bemis Bro. Bag Co., Talladega, Ala., said they spray the oil on behind the second beater at the picker, and get satisfactory results; when asked for advantages or disadvantages, he replied that the use of oil reduces much of the dust in the card room, and that the only disadvantage would be found in the likelihood of getting too much oil on the stock; his plant formerly used .2 per cent (two tenths of one per cent) but is now using .1 per cent. The speaker added that "if you don't go over .2 per cent the oil will do a lot of good."

The experience at the Winfield (Ala.) unit of Alabama Mills, Inc., was very much the same according to a report given: Oil on the stock keeps the lint reduced in the card room. This plant, which now adds .25 per cent oil to the stock, applies the oil at the 2-blade beater, letting the Kirschner beater blend it. Caution was given on the use of too much oil or it would cause the stock to sag on the screens in the pickers. After using oil at this plant the droppings from the card increased to about one or one and three-quarter pounds.

A man from a unit of Avondale Mills of Alabama reported satisfactory experience by reduction of dust. The chairman said that he understood that the oil could be put on the cotton through a wick system, as well as sprayed on, and asked for verification on this point. A member said that his plant is equipped in this manner, and he believes he gets less clogging with the wick.

Mr. Baum told of having used the oil spray system at one time, but of having to discontinue its use because it caused clogging of beater boxes, picker and licker-in screens, and also made it harder to strip the cards, even though his plant had reduced the percentage of oil to .1 per cent. Another man said that oil spray increases the amount of clearer waste and causes neps to stick to the rolls on the fly frames, though the advantages previously mentioned were found in the card and picker room.

Some of the men that make the discussion group "tick", left to right, **A. H. Randall** of Alabama Mills, **Fred Phillips** of Buck Creek Cotton Mills, **Ben H. Crawford** of the Auburn textile school, **Frank K. Petrea** of Samoset and **John Baum** of Pepperell. Messrs. Randall and Phillips are executive committee members, Crawford secretary-treasurer, Petrea and Baum general chairman and vice chairman respectively. Mr. Baum also led discussion on carding . . . . . .

More Stock in Card Cans

"What experience has been had from compressing card sliver to increase amount of stock in the can?" was the second question on the prepared questionnaire. Fred F. Phillips, vice-president, Buck Creek Cotton Mills, Siluria, Ala., gave some interesting figures to show the savings that could be made by compressing the card sliver, but qualified his remarks by saying that the device has been in his plant only a short time. His cards formerly ran 45 minutes before having to be doffed and since compressing the sliver they run 70 minutes, a 55 per cent increase in running time; the old system put 10¾ pounds of stock in the cans and the new gives 16 pounds per can, an increase of 69 per cent in weight. His cards run a 58.5-grain card sliver. In conjunction with the spring device, Mr. Phillips said that a smaller coiler is used in the coiler head, about the size of a pencil, but that the throw of the coiler head has not been changed, though it is understood that this is the practice in some mills.

He also described a home-made sliver compression device that has been installed by a mill in Georgia, and this mill has been able to increase the running time of the cards by 10 per cent. Answering a question as to the drafting qualities of the compressed stock on the drawing frames, Mr. Phillips said that on 75 tests (in a day's run) the end to end variation was only 3.61 per cent and the yard-to-yard variation 15 per cent, the tests being made on roving bobbins.

At the Opp (Ala.) Cotton Mills the spring tension device for compressing card sliver has been installed on all of the cards and it is giving satisfactory service. New trumpets were installed. The device gave from 35 to 40 per cent increase in the card cans, but the real saving at this mill was made at the drawing frames, which permitted the frame tenders to run 56 deliveries whereas formerly they only ran 36. No drawing roll settings were changed (metallic rolls), but the observation was made that the spring tension device requires more power at the cards. There was no change in the breaking strength of the yarn.

Card Settings to Eliminate Neps

The third question was "What is the best card setting to eliminate specks or neps using 15/16-inch Middling compressed cotton, 14½-ounce lap, 55-grain card sliver and carding 9 pounds per hour?" In putting this question the chairman said that he had asked his card grinder before the meeting for the settings to eliminate specks and neps, and the grinder had replied "buy a better grade of cotton". Another grinder had said "surely you are talking about a sharp card that is in good condition?"

A representative from the Pell City plant of Avondale Mills gave his card settings that are in use at this plant, but pointed out that the type of opening equipment has much to do with eliminating specks and neps, and that

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Report of meeting and snapshots by John C. Fonville of "Cotton".

The Wetumpka unit of Alabama Mills was well represented, left to right, **S. B. Kitching, Robert Rostron, B. L. Moncrief, J. A. Ward, A. F. Richardson,** and **J. J. Gannon.** Without hats, **H. B. Bergfeld** of Bemis Bag, **George R. Kay** from Greensboro, N. C., and **Emmett Warren** of Avondale Mills. Messrs. Bergfeld and Warren are members of the executive committee of the Alabama operating group.

each card cannot be expected to give identical results even if set alike, and furthermore if the card is set properly and the licker-in is dull, neps will be caused. Carding 9 pounds per hour, he strips every 2 hours running colored stock blended with white. His settings are as follows:

Doffer to cylinder .007, doffer comb to doffer .022, licker-in to cylinder .007, feed plate to licker-in .010, flats to cylinder .010 at all five places, mote knife to licker-in top .012 and bottom .010, back knife plate top .022 and bottom .029, front knife plate top .029 and bottom .022, screen to cylinder back .022 and middle .034 and front ⅛-inch, licker-in screen to cylinder .022, licker-in screen to licker-in top .029 and middle .034 and bottom ⅛-inch.

This mill uses a brush for stripping, with a vacuum removing the dust. Commenting on the foregoing settings, a man from the Lanett (Ala.) Division of West Point Mfg. Co., considered that the settings should give good work, and he emphasized the value of having good card clothing and of keeping it sharp.

Another Alabama mill reported having the standard vacuum stripping system, but once a week the cards are stripped with a brush.

E. W. Camp, head of the textile school of the Alabama Polytechnic Institute, inquired if anyone had tried different speeds for the flats in eliminating neps, and the representative from Pell City said that his plant has done so by increasing the diameter of the flat pulley, but has seen no difference in the quality of the stock. The Pell City plant opens 12 bales of cotton at a time and feeds them into the hoppers immediately. On this point, one man suggested that better work could be secured in removing foreign matter if the cotton were opened and permitted to bloom and fluff-up for a week before processing; his own plant opens 100 bales at a time and sets the flats and doffer to the cylinder as close as possible in order to remove the neps and specks.

The chairman asked what should be the angle of the mote knives and the answer received was "45 degrees to the licker-in—this is very important." Mr. Baum also gave the card settings used at his plant, which are as follows:

Licker-in to feed plate .010, licker-in to cylinder .007, back knife plate at bottom .022 and top knife plate .017, flats to cylinder .010, stripper plate at upper edge of front knife plate .022 and at lower edge .029, doffer comb to doffer .017, cylinder to doffer .007. He recomended setting the mote knives to the licker-in so that the point of the mote knives will set at an angle of about 45 degrees to the licker-in and as close to the licker-in as possible, setting the licker-in screen so that the stock will be delivered in an even manner across the entire face of the cylinder. The recommendation was made that there be at least three strippings in 8 hours.

Humidity on Long Draft Roving

Next followed a discussion of the percentage of relative humidity that has been found best for long draft roving frames, and the chairman asked if the dry bulb temperature reading has an effect on the running of the work also. The answer to this question was "yes" and then figures were given for Lanett Division as 74-75 degrees dry bulb reading with relative humidity of 55 per cent as most conducive to good running work (.84 to 1.50 hank roving). Cleveland Adams of Cowikee Mills, Eufaula, Ala., said that he finds 55 per cent relative humidity best, but that because of conditions peculiar to his plant this percentage is not always maintained. No humidity is carried over his cards and there is no separating wall between the carding and the roving, and no way to control the ventilation, so he has difficulty quite often in getting the 55 per cent that he would like to have. He said that too much humidity causes lapping-up and too little causes lumping-up (excessive clearer waste) on his long draft roving frames. He keeps the dry bulb reading between 70 and 75 degrees F. by opening and closing the windows. At the Tallassee (Ala.) Mills 50 per cent relative humidity is considered best.

The chairman asked if it is necessary to have more humidity on long draft roving than on the regular 2-process work, but one man answered in the negative and said that long draft requires "less if anything". The chairman indicated that this was opposite to his own findings, and said that in running 3.50 hank roving he had to have a higher room temperature (80 degrees) and a higher relative humidity (58 per cent), but he confined his remarks only to fine roving and not to coarse work. He uses cork rolls on his roving frames.

At the Avondale Mills located at Alexander City, four automatic controls are used for the 47 long draft frames (making from 1.00 to 3.60 hank roving) and it is found that 80 degrees dry bulb reading and 60 per cent relative humidity give the best results (cork rolls). It was brought out that the type of top rolls used have a bearing on the atmospheric conditions that must be maintained.

Variation in Roving

The fifth carding question asked for variation that should be considered normal in roving. Mr. Baum gave the following report: "Our opening equipment consists of bale breaker, vertical opener, lattice opener and horizontal cleaner. We have single-process pickers and two-process drawing. Our 1.00 hank roving is made on interdraft frame and 1.41 hank roving is made from 12x6 slubber roving creeled double in a 9x4½ intermediate frame. Sizing 10 bobbins per day, the results for the week ending November 2 were as follows: (1.02 hank roving) heaviest bobbin 104 grains, lightest bobbin 95.7 grains, percentage of variation from standard 8.5 per cent, heaviest average daily sizing 100 grains, lightest average daily sizings 99.4 grains, percentage variation from standard 2.0 per cent. (1.41 hank roving) heaviest bobbin 74.8 grains, lightest bobbin 68.7 per cent, percentage variation from standard 8.6 per cent, heaviest average daily sizing 72.4 grains, lightest average daily sizing 70.0 grains, and percentage of variation from standard 3.4 per cent.

J. A. Bone of Lanett reported on .90 hank roving with tests made on 16 bobbins and the lowest weighed 108 grains and the highest 114 with a variation of 5.4 per cent. On his 1.50 hank roving the low was 65 grains, the high 69.5

grains with the percentage of variation 6.8. Bill Whorton of the Langdale (Ala.) Mill Division of West Point Mfg. Co., said that his average variation for 1.35 hank roving, for a 2-week period was from 2 to 6 per cent. The average of daily sizings was 4.5 per cent for the same period, with all figures being corrected for moisture content. Mr. Whorton explained that all drawing and roving is corrected for moisture conditions, and the sizings are made on the individual deliveries of drawing every day, with the frames being changed if they vary too much from the standard. A sling psychrometer is used in this work. Also, the same principle applies to sizing roving, with the roving being conditioned before sizing. When the chairman asked if he had any way to take into consideration the moisture content of the cotton, he replied that he does not, but that this would be the most satisfactory procedure if he could do so.

Another mill with one-process of drawing has from 3 to 6 per cent variation in the roving, and it is watched quite carefully, though no such elaborate system as used by Langdale is employed, the speaker reporting that if the variation goes over 6 per cent "we get worried". At the Opp Cotton Mills, which has a regain indicator in the picker room, over a 47-day period the daily variation on roving was 3.67 per cent and the bobbin to bobbin variation was 4.40 per cent. On 1.076 hank roving the yard to yard variation (432 yards) was 1.17 per cent at this plant.

The final carding question on the questionnaire was "Will it take more twist per inch for 2 hank long draft roving than it does for the regular 2-process draft?" The following are the condensed reports given by the various mills:

Mill No. 1: Increase twist 10 per cent on long draft roving.

Mill No. 2: 1.40 hank roving on 2-processes of roving was 1.21 T.M., increased to 1.25 on 1.40 hank roving long draft, 3-process 3.50 hank roving 1.20 T.M., and single process long draft increased to 1.30 T.M.

Mill No. 3: Increase twist about 5 to 8 per cent when installing long draft roving, but much depends on the condition of the creels, skewers, etc.

Mill No. 4: Increase twist in long draft by 3 to 5 per cent, making the same size package.

The question arose concerning the cause of more fly at the roving frames when running long draft roving, and it was brought out that this may be caused by the loss of more of the short fibers.

The chairman then asked if anyone was able to use less twist after installing long draft roving, and a mill reported on converting his roving frames which were formerly 10x5 to 10x4 long draft and was able to reduce the twist from 1.20 to 1.15. He makes a 60-grain sliver into .80 hank and this goes into 2.40 hank roving, running the same grade of cotton, but he explained that he had installed overhead traveling cleaners in his spinning room after making the conversion.

Piecing-Up in Spinning

Nelson N. Harte of Merrimack Mfg. Co., Huntsville, Ala., was the leader of the spinning discussion, the first question being "What is the best method to use in piecing-up roving on long draft spinning to eliminate slugs or lumps in the yarn?" John Hampton, overseer of spinning, Fairfax (Ala.) Mill Division of West Point Mfg. Co., said that he does not have any trouble with slugs or lumps, and explained that he simply instructs the spinners when piecing up roving, to give the roving a little "untwist", which prevents thick and thin places going into the yarn. His plant runs 17s warp.

At the Lanett Mill, according to John R. Federline, the roving is broken back and the end is allowed to run between the rolls, whereupon the spinner breaks down the end and pieces-up; 14s warp is run. At the Clanton (Ala.) Plant of Alabama Mills, which is equipped with long draft in the filling and warp spinning, the roving is spliced and twisted. This mill is not troubled with slugs, but such as are made are caught on the spooler guides; the plant runs 15s to 30s.

Left to right, **R. W. Hollis** of the Winfield, Ala., plant of Alabama Mills chats with **Homer Roberts** of the Wetumpka unit before the meeting begins. After the meeting, **Boyce Estes** of The Clinton Company and **Hamp Morris** of Bama Cotton Mills, with **Gid Morris** of Bama Mills in background

Long Draft Aprons

"What is the best method of cleaning roll and carrier blankets on long draft, and which is best type apron to use, synthetic or leather?" was the second spinning question. This question was divided with the first part being a discussion of cleaning. It was reported at Pepperell Mfg. Co., Opelika, Ala., that the aprons are cleaned at the regular overhauling period, and that the spinner also does some cleaning when she is picking the rolls. Mr. Hampton has his rolls cleaned twice a year with a fiber brush; he has the double apron type of long draft spinning and in cleaning, if the aprons are worn, they are taken out and replaced. The metallic rolls are placed in mineral spirits and then are blown-off; he reported good results by this system. His plant runs 120 hours a week.

Mr. Whorton has his aprons cleaned once yearly on schedule, and also described a mechanical roll picker (operates with revolving spindle) which is used at all times on the rolls to keep them clean.

Another plant which runs 120 hours per week has the aprons gone over every 4 months, explaining that this is necessary because less twist in the filling gives more fly; the warp is cleaned only every 8 months, the work being done when the frames are leveled, lined and overhauled. The man reporting said that he has tried mechanical means for picking and cleaning the rolls but does not find it satisfactory. Another plant uses the mechanical roll picker, used by the section man, for cleaning all except the ends of the rolls, and these are picked by the spinner. Cowikee Mills finds it more satisfactory to take the rolls out and clean one stand at a time.

A question came up as to whether the rolls are replaced all at once, or are moved down to the front. Mr. Hampton said that at his plant the rolls are moved down, the section man giving the instructions if this is to be done; he then brought out that there is more evenness in a new apron than there is in an old one.

The second part of the question concerned experience with synthetic aprons on long draft spinning. Mr. Hampton again reported for his mill, saying that he has two frames using the synthetic aprons. According to him, the first ones tried did not last long because the cloth in them became rough, but that the newer ones have been improved wonderfully and they are now getting good results. He added that he was "going into this rather slowly" by testing them first, but that so far the aprons are "proving up very well". A point in their favor, according to Mr. Hampton, is that there are no seams.

Group from several mills in Alabama, left to right, **D. L. Epperson**, Avondale (Sylacauga), **Albert Moore**, Avondale (LaFayette), **M. J. Bates**, Alabama Mills, Clanton, and **G. P. Mims**, Avondale (LaFayette); **Carl Mangum**, Avondale (Birmingham), **G. A. Johnson** and **W. O. Buffin**, Opp (Ala.) Cotton Mills . . . . . .

John Baum also gave a satisfactory report, saying "we are getting good results from the aprons and they have not cracked. Other aprons have cracked after they were run awhile. The ones that we are using have been running 18 months and are giving no trouble at all."

A member reporting for another plant said that he is getting good results from the later type of roll that is available, but explained that one type only ran three months because the rubber became sticky and fly collected in the apron. Mr. Baum then brought out that since the synthetic cots are endless, if one breaks it is not possible to replace it until the regular overhauling period and that the stand will have to run with leather until the time of replacement.

A question from the floor asked if the synthetic aprons have been run in the winter time, and Mr. Hampton said that his ran throughout last winter and gave no trouble.

Mr. Federline asked if there is any variation in the yarn count after an apron stretches on a long draft spinning frame, and Mr. Whorton told him that formerly his plant replaced all stretched aprons, but now he finds that the slacker the aprons are the better it is.

Another point was then brought up by a member, who told of having some of his plant equipped with the synthetic rolls. According to him, the leather aprons stretched and it was necessary to open the settings on the rolls of the spinning frame; after he installed synthetic rolls it was found that he could get a 1/16-inch closer front roll setting, which therefore gave him an even-er yarn and a better breaking strength, and he felt that "on the whole there is something in the apron to warrant continue using them".

One man told of stripping the inner-lining out of the synthetic aprons and they ran just as well as with it.

Spinners or Cleaners

The next discussion brought up an age-old controversy concerning the use of special cleaners in the spinning room or letting the spinners do their own cleaning. John Hampton is thoroughly sold on his method of having employees that do nothing but clean, giving the spinners more time to spin. He has cleaners altogether, and the only cleaning the spinners do is to remove waste on the scavenger roll. Mr. Hampton said that he would not advise whether the system is the best for every mill, but it "suits him fine" and he would not change back if he had the opportunity. A considerable saving was the result of his having both cleaners and spinners. He did emphasize that a green operative should not be put to cleaning, but that she should first learn to spin. His plant is installing overhead traveling cleaners.

A representative of the Dadeville (Ala.) Unit of Alabama Mills said that he was "bitterly against" having cleaners and spinners. He told of a mill where he once worked that had cleaners, all young boys, and the system proved to be a failure. He is in favor of giving the spinners a certain number of sides and letting them do their own cleaning. He emphasized the cleanliness of his plant by saying "I am not ashamed to let anybody look at my mill."

In order to get a cross section of the practice, the chairman asked how many mills in Alabama have the system of employing special cleaners and 10 mills indicated that this is the practice. 19 mills indicated the regular system of the spinner doing her own work. Since this was not all of the mills represented, the chairman then asked "how many mills do no cleaning", which brought laughter.

One man said that there are two units to his organization, and one mill uses the cleaner system and the other does not; his only objection to special cleaners was that very often they are put to work doing something other than cleaning, which seems to defeat the purpose of having them in the first place.

The chairman, Mr. Harte, then told of one mill that he has seen that uses the whirling spindle cleaner. The plant runs three shifts and the cleaner gets around every three days, one operative (using the whirling spindle cleaner) cleaning from 16 to 18 sides during each shift.

Paper Tube Spindle

The next question asked for experience with the paper tube spindle on spinning frames, but only one man present had a mill equipped, and he only had one frame. He did not consider that it is an improvement over the regular method because he has to pull it up so high that it interferes with the doffing.

Mr. Harte read a paper prepared by W. L. Denham of the Dallas Mfg. Co., Huntsville, who was not able to attend the meeting: Mr. Denham's plant has a number of frames installed on the paper tube spindle, equipped with ball bearings, and he considers it an improvement over the old style bobbins that were formerly used by this mill. He believes that it gives a better balanced package. His report indicated that the paper tube has a life that is one-quarter the life of the wooden bobbin at one-third the cost. According to Mr. Denham, the work does not run better but it runs as well as it did formerly. [A feature story in COTTON on the Dallas installation appeared on page 65 of the September 1939 issue.]

Another man, who had seen the installation at Dallas, reported that Dallas liked the new-type spinning very well and that the management would not choose to go back to the old-style spindle; he said that the front roll speed had been increased.

The chairman then added that the paper tube spindle could not be stepped on or cut without destroying its further use, but said that "it does have remarkable strength even if it is made of paper".

Marking Yarns

The fifth spinning question asked for methods of marking yarns to keep them separate on Barber-Colman spoolers when as many as four counts are being run at one time, and how to handle tangled yarn. The first man to reply said that he has never tried to run four numbers of same color on the spooler at one time, but has run four different colors on the spooler at the same time. His system is to mark a card instead of the yarns, putting the card on the boxes that go to the spool-

er. The various colors can be kept separated easily. For tangled yarn, he carries it to the tailing machine where it is processed, and those packages too badly tangled to be run are taken off.

The next answer indicated that the mill runs four counts of grey yarn at one time on the same spooler, and the yarn is kept separated by painting the sleeve with a lacquer paint; the speaker recomended that a good grade of paint be used. Mr. Federline also has his bobbins and sleeves painted, and as nearly as possible, he keeps the same color scheme throughout the spinning and warping.

Marking and Storing Filling

The last prepared question asked for methods of marking and storing filling. At Avondale Mills, said a representative, chalk is used in marking the bobbins (as close to the bottom as possible) that is as nearly the same color of the filling as possible so it will not show up in the cloth. A box is kept for each color, in which it is sent to the weave room.

Mr. Federline said that his doffers doff into bags, similar to mail pouches, and the bag is drawn together with a draw string. When the filling is to be conditioned, it is dumped into the machine from the bag, and is caught at the other end of the machine in the same bag so there will be no danger of getting it mixed.

Fred Phillips contended that he has found it inadvisable to mark the yarn with crayon so his plant has the quills painted to indicate the yarn style. Inasmuch as there are as many as 23 colors being used at one time, he has the butts of the quills painted one color and the tips another, the combination of colors indicating the style of the yarn.

Mr. Phillips was asked his method for stripping the yarn from the bobbins, where the various bobbins are painted in so many color combinations, and he said that they just have to wait until enough of the quill color combination collects and then run them through the stripper.

Next came the question of a method of identifying mixed filling, and a member said that his weave room sends it back to the spinning room, where it is sized and re-marked, and if it gets into the cloth by mistake, it just has to be picked out, but the employees are cautioned against mixing the filling.

Another question was "how to handle color blindness of operatives". One mill solved this problem by giving each of the employees a test for color blindness, and where this physical defect was discovered, the operative was placed on a job where it was not likely to cause trouble.

R. W. Hollis won the hat awarded as an attendance prize.

Tests on Rain-Grown and Irrigated Cotton Reported

Preliminary results of spinning and fiber tests on irrigated and rain-grown cotton from the 1939 crop were released recently by the Agricultural Marketing Service of the United States Department of Agriculture. Mill men have claimed that irrigated cotton has more waste than rain-grown cotton, producing yarn of lower strength, unsatisfactory in appearance, and is harder to spin and dye. These claims, which are reflected in price differences in the cottons, were responsible for the study.

Cotton produced under irrigation constitutes on the average about 7 per cent of the total U. S. crop. It runs unusually high in grade and is considerably longer in staple than the average of the crop. But manufacturers generally hold that irrigated cotton is deficient in certain other qualities usually referred to in the aggregate as "character". These properties include such factors as fiber strength, uniformity of fiber length, fiber fineness, degree of maturity, and freedom from fiber imperfections.

The tests were made in the U. S. Spinning Laboratory at Clemson College, S. C., with representative samples gathered from the Memphis territory, from California, and from the Arizona territory. The cotton was spun and woven under controlled laboratory conditions.

Grade for grade, these tests showed that cottons having staple lengths of 1 1/16 and 1 3/32-inch, produced in the Memphis territory yielded less manufacturing waste than those from sections where the cotton was grown under irrigation. But the longer staple, 1⅛-inch cotton produced in the Memphis territory was somewhat inferior to California cotton from the standpoint of waste. Strength of the 1 1/16- and 1 3/32-inch cotton produced under rainfall conditions in the Memphis territory was neither consistently higher nor lower than that of the comparable cotton produced under irrigation in California. But yarns from 1⅛-inch cotton from Memphis averaged about 4 per cent stronger than those made from California irrigated cotton. In all three staple lengths, cotton produced in the Memphis territory yielded yarns 2 to 11 per cent stronger than those from irrigated cotton grown in the Arizona region.

Appearance of yarns and fabrics made from rain-grown cotton was generally more satisfactory than those made from irrigated cotton. The products of rain-grown cotton contained fewer neps and particles of foreign matter. There was no difference in manufacturing behavior. Dyeing tests of yarns and fabrics will be undertaken later.

New Resin for Textile Finishing

Rohm & Haas Company, Philadelphia, Pa., have announced a new resin for textile finishing with the elastic qualities of rubber latex. It can be used in concentrated form for coatings on fabrics, or in more dilute form for impregnating fabrics to produce a variety of unusual finishing effects. The company points out that it does not oxidize with age, nor develop an odor, nor cause fabric discoloration.

The new product is a modification of the acrylate resins, which the company has been marketing as RHoplex. It is similarly available as a concentrated aqueous dispersion. There are three grades. The soft grade is the most elastic, though not tacky, and is designed particularly as coating material for fabrics to produce tough, elastic films. The medium grade produces a firmer and drier film that is not quite as elastic, and may be blended with the softer resin to obtain intermediate effects. It produces as well a variety of unusual fabric finishing effects on rayons and cottons. The hardest resin in the series, it is explained, is completely resistant to solvents, and in low concentrations produces unique finishes on spun rayon fabrics, and soft, full, non-slip finishes on rayon satins and taffetas.

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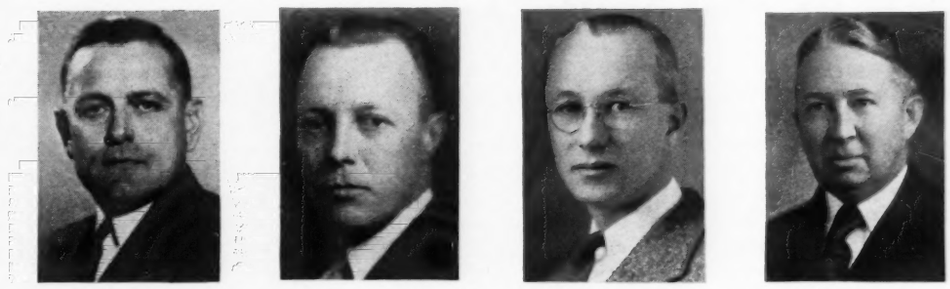
Boyd Heads Piedmont Section of AATCC; Fletcher Kibler Re-Elected by South Central

L. M. Boyd. southern representative of Scholler Bros., with headquarters at Salisbury, N. C., was elected chairman of the Piedmont section of the American Association of Textile Chemists and Colorists at its fall meeting in Pinehurst, N. C. T. W. Church, secretary-treasurer, Highland Park Mfg. Co., Charlotte, was made vice chairman, and D. Stewart Quern, of Buffalo Electro Chemical Co., Charlotte, was made secretary. R. D. Howerton, of Calco Division, American Cyanamid Co., Charlotte, was reelected treasurer.

Fletcher W. Kibler, superintendent of dyeing, United Hosiery Mills Corp., Chattanooga, Tenn., was re-elected chairman of the South Central section of the association at its annual meeting in November. Jack Anderson, purchasing agent, Peerless Woolen Mills, Rossville, Ga., was made vice chairman; Joe T. Bohannon was made treasurer; and Frank F. Myers was re-elected as secretary.

N. C. Mill Men Meet at Pinehurst



Left to right: W. H. Entwistle, the new president; W. H. Ruffin, first vice-president; E. A. Smyth, III, second vice-president, and A. G. Myers, retiring president, of N. C. association

THE largest attendance in the history of the organization's meetings participated in the annual convention of the North Carolina Cotton Manufacturers Association at Pinehurst, N. C., on November 7-8. The program was an especially interesting and enjoyable one, as to the business sessions and entertainment features.

A. G. Myers, of Textiles, Inc., Gastonia, presided as president and delivered a forceful address covering current and prospective conditions and policies affecting the state's textile industry. Julian Miller, editor of *The Charlotte Observer*, was the other featured speaker, and plead for unity and understanding in view of the country's serious problems and tasks ahead.

W. H. Entwistle, vice-president of Entwistle Mfg. Company, Rockingham, N. C., was elected president of the association, succeeding Mr. Myers. William H. Ruffin, secretary and assistant treasurer, The Erwin Cotton Mills Co., Durham, was made first vice-president; and E. A. Smyth, III, president of Balfour Mills, Inc., was made second vice-president. Hunter Marshall, Jr., of Charlotte, was re-elected as secretary-treasurer.

President Myers, discussing prevailing conditions in his annual address, commented on the current improvement in business conditions, for which, he said, "we have every reason to be thankful.

"During the last 10 years there have been only three short periods of operations for the mills. * * * May we hope that the improvement we are now enjoying will be sustained for a sufficient length of time to enable the textile industry to put its financial house in shape to weather the storm most surely to come—and sooner than some of us may expect."

Mr. Myers particularly urged that "there be no vast expansion in facilities to take care of this temporary emergency." Rather, he said, "if we are wise we will use such money as can be spared for modernizing and revamping those plants now in existence on which so little money has been spent during the last decade."

Myers Urges Moderation

"After the last world war," Mr. Myers said, "we found ourselves with 36,000,000 spindles, far too many to take care of normal needs. Today there are about 22,000,000, sufficient to produce all the cotton goods for which there is a demand, in addition to obsolete plants, now idle, which could be put into production if profits should continue to increase. * * * Would it not be better to maintain prices so as to yield a reasonable profit to the mills with the view to continuity of business than to have a sudden stoppage of business, resulting in curtailment and tremendous inventory losses, by reason of excessive prices? In short, let's not get all four feet in the trough."

The speaker noted that cotton consumption is holding its own so far as natural fibers are concerned, but "the real red light shows when we come to the synthetic fibers; whereas cotton increased approximately 25 per cent in the first 9 months of 1940 against the same period of 1923-1925 average, rayon increased 11 times, or 1100 per cent." He predicted that this trend would continue "unless the cotton industry spends more money on research and exploitation" as its competitors are doing. He said that "a contribution of 25 cents per bale on all cotton consumed (instead of the 2 cents per bale asked under the Institute's present program) would pay the mills handsomely if the aggregate sum thus raised were used in intelligent research and advertising."

Mr. Myers urged better balancing of production in the industry. For the past 10 years, he said, "there has been produced a surplus at all times with the exception of the three short periods I referred to. And the merchandising policy of accepting what is offered rather than selling with a margin of profit can never be corrected as long as there is a disposition on the part of mills to create more goods than there is a demand for."

The golf tournament for mill members and associate members, held on Friday of the convention, was enjoyed by a large number of the mill men and their guests. The prize for low net for mill men, the cup awarded by Corn Products Refining Co., was won by C. J. Beaver, of China Grove Cotton Mills. This trophy must be won three times for permanent possession; a small replica is awarded to the winner each year.

Low gross for mill men was won by J. W. Hawthorne, of Jewel Cotton Mills; second low net by J. E. Millis of High Point; and second low gross by W. H. Ruffin, of Erwin Cotton Mills Co., Durham.

B. W. Wilson, of Cook & Co., Gastonia, won low net for associate members; and Ed Reid, of Sonoco Products Co., Charlotte, won low gross. High net for members was won by Arthur K. Winget; for associate members, by Carl R. Cunningham. High gross for members was won by H. F. Hunsucker, of Highland Cotton Mills; for associate members by R. I. Dalton. Prizes in the skeet shoot were won by R. C. Moore, Walter W. Gayle, Harvey Moore and J. D. Sandridge.

Material-Handling Methods Discussed at Durham STA

METHODS of handling, routing and conveying stock within the plant were discussed by the Eastern Carolina Division of the Southern Textile Association at its regular fall discussion meeting at the auditorium of the Erwin Cotton Mills Company, West Durham, N. C., Saturday morning, November 2. Divisional chairman W. H. Miley, Jr., superintendent, Erwin (N. C.) Mill No. 2, was in charge of the program, with P. B. Parks, Jr., superintendent of Erwin (N. C.) Mill No. 5 leading the discussion.

To illustrate the uselessness of many of the operations in a textile plant, Mr. Parks told a humorous story of a piece of metal that had been at his plant since the plant was built in 1925. The metal was left in the plant by the plumbers, and though it had no value or was of any use whatsoever, it was carefully taken care of by the janitor, swept around and moved, but always carefully placed back where it had always rested.

Ideal Handling Methods

The chairman started the meeting in an interesting way by asking for the various points that should be considered as "ideal" in conveying the stock within the plant, and the following points for consideration were given: (1) Stock must be moved with the least amount of effort; (2) in a manner safest to the operative moving it; (3) so that the stock will arrive at its destination in the best possible condition and with the least damage; (4) with the least mixing of the stock with other stock in process; (5) in the most economical manner; (6) by path of the shortest haul; (7) with the fewest operations; (8) at the time eliminating as many empty back-hauls as possible; and (9) with as little damage to floors, building and equipment as possible.

It was brought out, with the foregoing points in mind, that the principle of material handling in each department is the same, though the detail may vary considerably; therefore, a person interested particularly in spinning problems, as related to material handling, could learn much from the discussion of card room problems.

The chairman asked what would be considered the proper place for the location of the opener room and Mr. Miley answered "closest to the source of supply", while someone else thought that it should be as close to the picker room as possible: to which the chairman added that it would be nice to have the warehouse, opener room and picker room located on the railroad. It seemed to be mostly agreed that the opener room should be located very near to the warehouse so there would be little handling of the cotton.

A statement from the floor suggested that if the opened stock is sent to the picker room through a long conveying trunk the stock would be injured. A question was put to determine the length of the conveying trunks in the various mills, and these varied from 30 feet to 1,000 feet, and none present indicated damage to the stock by handling it through the trunk line.

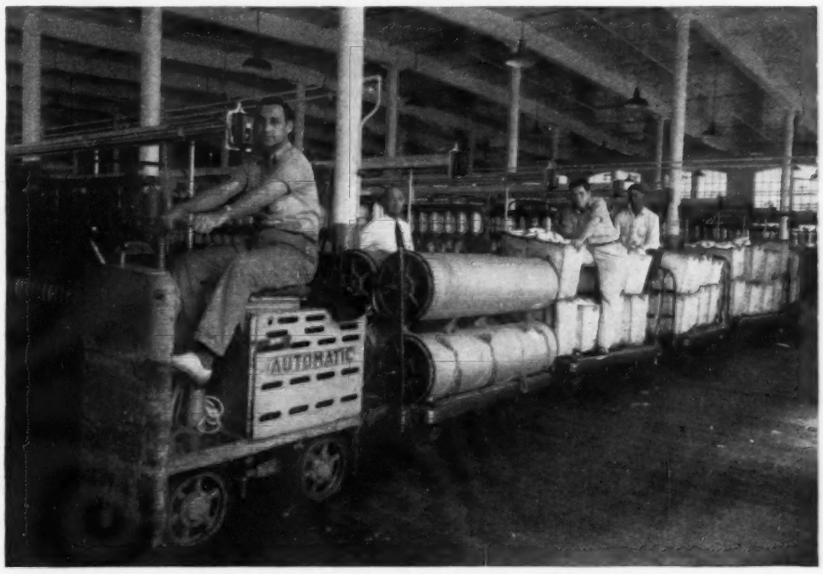
Some discussion took place on a hypothetical method of getting the bales opened by mechanical means and sending the cotton to the opener room, but all plans suggested either had flaws in them or turned out to be Rube Goldberg inventions that might appear in the comics. P. B. Parks, Sr., manager of the Erwin plants at Durham, said that they had considered a conveyor from the warehouse to the opener room, but because of the location of the latter, it was impractical. The present method is to convey the stock on rubber-tired trucks, and lay down 30 bales at a time, having two employees whose job it is to dump the stock into the 15 hoppers (2 bales to each hopper), from which it is distributed to two of the plants.

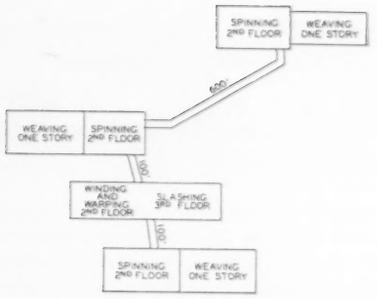
Continuing, Mr. Parks, Sr., said that at their plants it is necessary to take the bales from trucks and get them into the warehouse, where the cotton is stacked 7 bales high. A hoist is used for this work, lifting two bales at a time, but the hoist is not moved about the warehouse. Ropes have been run from the centrally located hoist machine, so that the bales may be stacked conveniently without necessitating moving the hoist One man operates the hoist. Nine men are engaged in this work and the average number of bales stacked per day is 800—and there have been no accidents.

A. L. Oldham of Erwin No. 2 reported that his plant opens 80 bales at a time, feeding the stock into 27 hoppers and the stock is handled no more until it comes out of the pickers. At this point there was some discussion on the value of having a large force work for a short time, or have a small force operating continuously, and Mr. Oldham considered the latter arrangement to be more efficient. The chairman agreed that the smaller force working on one job tending to be specialists in their field, could do a better job than a large force working part time on one job and part time on other jobs.

Getting into the handling of stock at the picker room, the chairman asked if any of the men present wrap the laps with paper. A representative from the Pilot Mills Company, Raleigh, N. C., wraps his picker laps at the finisher picker with paper, the 4 pickers doffing every 8 minutes, but he explained that his plant runs about 70 different colors and in order to prevent too much waste and mixing, it is necessary to handle the laps in this manner. This mill is equipped with an elevator for handling the picker laps and conveying them to the card room, and the paper protects the laps from

Some of those who attended the STA meeting at Durham where the discussion centered around material handling in the textile plant: Left to right, **D. F. Lanier** and **D. E. Long** of Oxford (N. C.) Cotton Mills, **George Gilliam** of Sterling Cotton Mill, Franklinton, and **Everett Taylor**, National Ring Traveler Co. Center photo, a group representing the Erwin Mills, left to right, **Paul Lee**, No. 2 Plant, **R. D. Caldwell**, No. 2, **R. H. Knight**, No. 6, and **Gilbert Woodworth**, No. 2. Right hand photo, **Gilbert Woodworth, Jr.**, **W. H. Miley, Jr.**, and **A. L. Oldham**, all of Erwin (N. C.) Plant No. 2. Mr. Miley is chairman of the section.





The photo at the left shows the electric tractor with trailers at the Rosemary Mfg. Co., Roanoke Rapids, N. C., that is used in transporting stock through covered passageways from the three spinning rooms to a central building where all the spooling, winding, warping and slashing is done. The sketch above is a plan view of the three spinning rooms, slasher building and weave rooms. From the slasher building the tractor returns the empties to the spinning rooms and also delivers warps to the three weave rooms. By careful routing of stock the mill is able to have loads for the tractor both going to the slasher building and returning, thereby eliminating empty hauls. Trailers are left in the various rooms to be loaded and then are picked up by the tractor so that it does not have to wait while the trailers are being loaded and unloaded . . . . . .

the draft that is created in the elevator shaft.

No one else reported wrapping the picker laps with paper, but the discussion leader said that he understood there is a paper jacket available for picker laps, similar to the jackets used by dry cleaning establishments to cover clothes.

Weighing Picker Laps

Mr. Oldham, when questioned, said that he has 11 pickers and the picker room is equipped with platform scales, the laps being weighed on end; formerly the room had cradle scales on a track but there was so much work to be done in this room that this type of scale was dispensed with. The chairman agreed that the platform scales were quite a time-saver, but said that "would not go into the accuracy of the method." Another member reported using platform scales (not on a track), but weighs the laps on the side. He has three finisher pickers and works only one man in the picker room.

The laps at Erwin Mill No. 4 formerly were covered up and stored, explained M. R. Harden, superintendent, but where only white work is run he does not consider covering the laps necessary for storage, and he described a truck in use at his plant that will carry 6 picker laps laid horizontally on the racks of the truck; it was also his opinion that the trucks used for storing the laps require less floor space than the laps placed on the floor. His mill has 100 of the lap trucks and he considers them a good investment. Mr. Harden was asked if there is trouble with the laps sagging while on the truck, and he answered that he considers it better practice to hang the laps horizontally on the trucks than to store them on end, but qualified his remarks by saying that the laps at his mill are used very quickly. The chairman considered it good practice to store the laps on end if they were not to be used for several days.

Another type of picker lap truck was described by Mr. Oldham. His alleys are only 30 inches wide, and would not accommodate the type lap truck used by Mr. Harden, so he uses one that is 9 feet long by 18 inches wide; it carries 6 laps in a row. Mr. Parks also described a conveying system for picker laps that he has heard about; it operates along the same principle as conveyors in a packing house. The picker laps are hung on an endless conveyor which operates overhead and circulates around the cards, and as a lap is needed the card tender can simply reach up and select his lap.

Next came a discussion of machinery arrangement by the chairman, who drew various types of machinery layouts and showed convenient location of elevator shafts so that movement of goods could be expedited with minimum effort. In concluding this particular phase of the discussion, Mr. Parks said that many of the men have an opportunity to make machinery rearrangement sometimes, and in doing so it would be wise to provide for a large alley to take care of traffic; this should be located in the center of the room if at all practical.

Two methods were described by members for getting the card sliver cans to the next process, one was the usual method of pushing the cans ahead of the operative, usually five at a time; the other method was to *pull* 12 cans at a time by a rope. It was brought out that much depends on the condition of the card room floor as concerns moving the card cans, and sometimes it is preferred to have angle rails on the floor to direct cans that are being pushed. Mr. Parks said that one floor that he designed had the main flooring running across the room, but that in the alleys, which are used for moving card and roving cans, the floor runs lengthwise so that the cans may be moved easily. This gives the flooring a checkerboard appearance, but it serves the purpose for which it was intended.

Handling and Storing Roving

Mr. Oldham said that he has a few bins in which to store the roving, and tries to keep enough roving boxes so that production will not be interfered with, but even then it is necessary to store some of the roving on the floor. It was pointed out that the stocks will remain in much better condition if it is not handled so much, and if the mill will keep enough boxes on hand this can be accomplished. Mr. Parks pointed out that an investment in a sufficient supply of roving boxes is good because otherwise the mill must pay to have the roving placed on the floor and later pay to have it picked up.

This brought up another point when a member said that in doffing the roving frames he requires the operatives to *place* or *stack* the bobbins in the box instead of tossing them in, which naturally prevents damage to the stock. This caused some comment from other members who wanted to know if stacking the roving required too much time, whereupon it was pointed out by several men that it is just as easy and as fast for the operative to stack the roving as it is to throw it, once the technique is learned, and another mem-

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Report of meeting and snapshots of men by John C. Fonville of "Cotton"

ber present (who had run roving frames for a number of years) said that it is even faster to stack the roving once the operative is trained to do so.

When the question of using old stock stored on top of the spinning frames came up, one mill man said that he makes a practice of rotating his frames every week so that no new roving will be placed on some of them, thereby permitting the old stock to be used.

On a show of hands it was found that for the type of roving boxes used the mill men present indicated fiber, metal and wooden boxes, with the majority using fiber boxes. Mr. Harden volunteered that if the boxes had wooden bottoms, which in time would damage the roving by splintering, a pressed composition board could be placed in the bottom of the boxes, with the smooth side up, and this would remedy the situation. Also, answering a previous question on storing roving in bins and having the oldest roving used, he described the method at his plant whereby signs were used to direct the operative to the roving that should be used first. Mr. Harden pointed out that this was described in COTTON [August 1938 page 88].

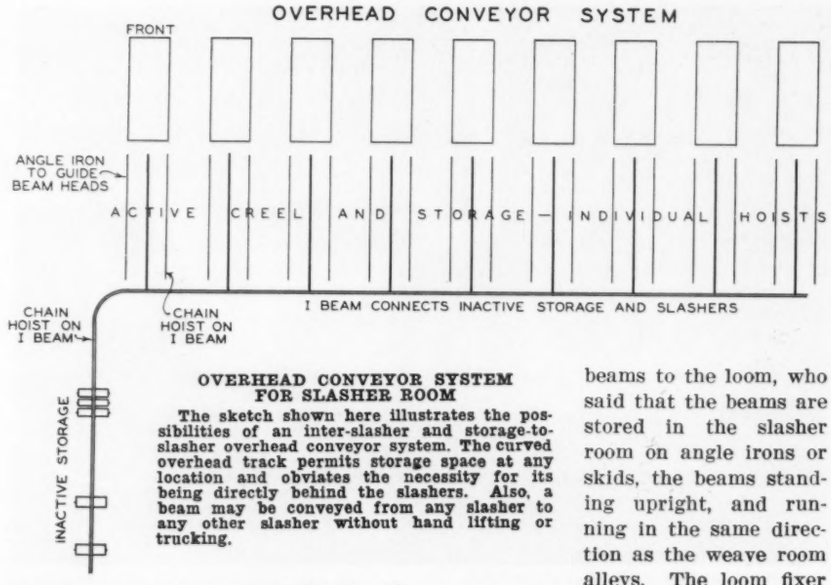
The chairman asked if any of the members present use roving boxes with false bottoms, or with rods as the bottom so that trash will fall through. Mr. Oldham said that he had made some boxes on this order using a $\frac{7}{16}$-inch rod, and that as to the trash falling to the floor, the boxes were satisfactory, however, when blowing-off time came the lint and dirt was blown up into the box from the bottom because there was nothing to stop it.

Handling Stock in Spinning

In the spinning room it was agreed that it is best to use the widest alley for the most traffic because the doffers are usually in a hurry, and since the machines are high and difficult to see over, using the wide alley would reduce the number of accidents.

T. W. Mullen of Rosemary Mfg. Co., Roanoke Rapids, N. C., told of having all the spinning yarn moved to a central point in the room, where it is picked up by powered trucks and hauled through covered passageways to its destination. The empty bobbins and quills are brought back in such baskets as are needed, and the surplus baskets are stacked and brought back to the spinning room. This mill uses different colored bobbins for the different numbers to prevent mixing the yarn.

The chairman said that it would be a good idea to store everything in boxes and on wheels to expedite material handling.


OVERHEAD CONVEYOR SYSTEM
FRONT
ANGLE IRON TO GUIDE BEAM HEADS
ACTIVE CREEL AND STORAGE — INDIVIDUAL HOISTS
I BEAM CONNECTS INACTIVE STORAGE AND SLASHERS
CHAIN HOIST ON I BEAM
CHAIN HOIST ON I BEAM
INACTIVE STORAGE

OVERHEAD CONVEYOR SYSTEM FOR SLASHER ROOM

The sketch shown here illustrates the possibilities of an inter-slasher and storage-to-slasher overhead conveyor system. The curved overhead track permits storage space at any location and obviates the necessity for its being directly behind the slashers. Also, a beam may be conveyed from any slasher to any other slasher without hand lifting or trucking.

Next discussed were methods of handling the warper beams, and it was decided that the problems are different with the large and small beams. In some cases it is necessary to convey the beams to a storage rack on cradle trucks, where they are used by the slasher room as needed. A question was asked if this system is thought to be more advantageous than leaving the beams on the cradle truck until used by the slasher room, the inference being that such is the practice in some plants. One man considered this impractical as there is the possibility of the warper beams turning over if left on the cradle dolly.

Mr. Parks again emphasized the uselessness of some of the steps in material handling throughout the plant by describing a system once employed whereby the warper beams were to be dyed, and were placed on trucks and then laid on the floor for the next department, both in going to the dyehouse and the return—this unnecessary handling was solved by securing enough trucks so that a beam that was to be handled by more than one department could remain on the same truck all of the time, thereby eliminating several operations of lifting beams onto and off the trucks. He then mentioned the successful application of overhead rail hoists in the slasher room to expedite moving the various types of beams and in loading the slashers, and Mr. Mullen said that his plant will soon have such an installation.

The discussion leader turned to material handling in the weave room and pointed out that this is one room where there is traffic and more traffic, and this problem should be carefully worked out. He called on Gilbert Woodworth, Jr., of Erwin No. 2, to explain his system of getting the warp beams to the loom, who said that the beams are stored in the slasher room on angle irons or skids, the beams standing upright, and running in the same direction as the weave room alleys. The loom fixer removes the beam from the skid and moves it into the weave room through one of two wide alleys used for this type of traffic, the empty beams returning by the same route. If a blow-off pipe is across the alley the loom fixer moves the beam under the pipe instead of running over it with the dolly. His fixers handle about 110 warps every 8 hours. The foregoing applies to narrow beams, but advice from the floor suggested that wide beams should be stored on the trucks at all times instead of standing the beams on skids.

Several methods were given for handling the cloth rolls in getting them to the cloth room. Mr. Parks said that some mills simply drop the rolls of cloth through a hole and they are conveyed to the cloth room through a chute. He then explained a method that would save further time in having the rolls of cloth picked up, which in substance was to have all rolls of cloth that are doffed placed in one alley, thereby saving the cloth hauler the time required to go up and down each alley in the weave shed. Mr. Harden, at his plant, has a cloth truck placed in the main cross alley and as the weavers remove the rolls of cloth they take them to the cross alley and load the rolls on the truck. Large rolls of cloth must be handled by a chain hoist.

C. W. Howell of Erwin explained his method of handling the cloth whereby checking of the rolls by the cloth room is eliminated. As there are several styles in his weave room, trucks for each style are placed in the cross alley and the loom cleaner takes the rolls to the proper truck; at the time of loading the roll onto the truck he checks the roll on a board hung on the truck for this particular purpose. The cloth is not handled any more until it reaches the cloth room.

CURRENT TEXTILE TOPICS

Orderly progress a promising sign

MANY WEEKS, nay even months, ago the stage was set for a long period of upward progress in the manufacturing industries of the country. It has been a question not of whether the business would develop but how. The cotton industry has had a discouraging sequence of ups and downs for a generation. Thus an encouraging note of the recent broad activity has been caution against too rapid business for the long term.

Spread of the business undoubtedly is as conducive to a healthy market on a rising tide as in a declining movement. The industry came into the fall after a long period of ruinous operations. Mills did a boom business early in the fall of 1939, then had only intermittent spurts of selling until the defense program started another broad movement late last summer. Meantime, between spurts the dull periods brought steady declines in price.

On the new movement started under the impetus of the national defense program, prices had a gradual rising movement. It was not until November, however, that prices again were definitely on a profitable basis. A favorable circumstance in this case was the caution against long-term sales, with sellers more than buyers accountable for an orderly development of the market. There was elimination of undue speculation and the consequent opportunity for mills to plan ahead with regard to changing costs and other new conditions.

New production level for mills

By October the cotton industry was indicating a rise to a new plane of production in this country. The consumption of raw cotton for that month, as shown by the latest figures of the Census Bureau, jumped from 639,252 bales the previous month to 770,702 bales. This compared with only 686,451 bales for October in 1939 and was near the March, 1937, monthly record for consumption in the United States.

Such a volume of production obviously must be traced to an unusual demand. Beginning with July, the year has shown sharp and increasing margins of cotton consumption above the corresponding months of 1939. In the summer this could be laid conspicuously to the defense program, with its demand for certain specialties. In the late fall, however, the rising mill activity was based on buying that had become widespread.

Even before the end of October despite such output, buyers were running into shortages of various constructions as buyers placed orders well above the rate of production. With a further rise in mill schedules indicated for the last months of the year, it was felt that production would meet delivery dates very well as a whole unless priorities were invoked for defense goods. As to priorities, it was believed that they would be imposed only over a limited field if found necessary.

Careful attitude toward future

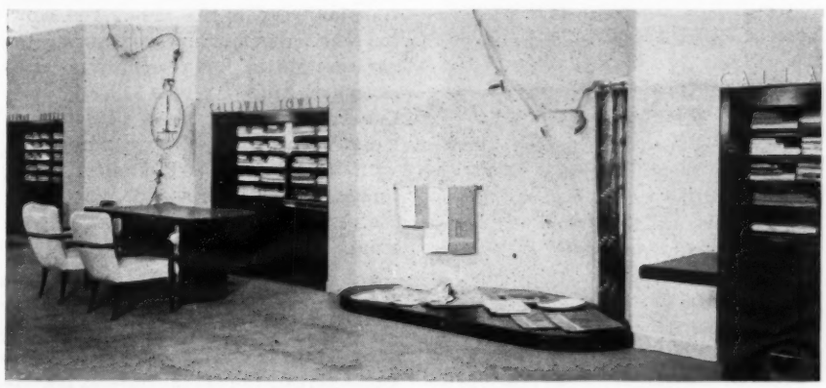
With Dr. Claudius T. Murchison, president of The Cotton-Textile Institute, as spokesman, the cotton industry has been planning this year toward a future time when consumption of the southern staple fiber will reach 10,000,000 bales annually. Recently Dr. Murchison stated that "the next decade will be one of adjustment to increased demand." He also stated that the Institute was developing within its framework an organization which would constitute the "full mobilization of every resource of the industry which cotton needs today."

Such a program, however, is conceived only on a normal condition of demand and as a fundamentally sound idea for permanent benefit. The impetus given to the industry this fall by defense program easily could create a false impression. As Dr. Murchison also stated, the government requirements over a period of twelve months will not exceed 10 per cent of a normal turnover in cotton goods for a year.

This was a warning to manufacturers that they should keep as their main concern the outlook for private cotton consumption. It was seconded by A. G. Myers, president of the North Carolina Cotton Manufacturers' Association, when he said: "Instead of expanding the producing capacity, if we are wise we will use such money as can be spared for modernizing and revamping those plants now in existence on which so little money has been spent during the last decade."

Another thing for mill men to ponder, in the way of fundamentals, is the statement by Robert C. Kelley, textile committee chairman of the National Association of Purchasing Agents, that quality is the first consideration among 85 per cent of the industrial buyers. And he expressed belief that the field is open for new constructions.

"Why don't you tell us your goods are better, that they are stronger, heavier, more evenly woven, free from oil and damaging chemicals, more pliable, more absorptive. Why don't you tell us more about those new looms you have bought, the new long-draft spinning equipment, and bring around some samples to show what they will do? We know the language," he said.



● **The new Towel Salon in the New York showrooms of Callaway Mills, where the new towels ensembled with Valway bath mats, rugs and lid covers are displayed. The salon was designed by Alphons Bach. Lighting here is as perfect as modern engineering can provide, and style predominates throughout the salon. The trade is cordially invited to visit the salon. Robert D. Williams, Jr., is vice-president in charge of sales. Arthur R. Neill is in charge of towel sales and merchandising . . . . . .**

Relative progress in textile fibers

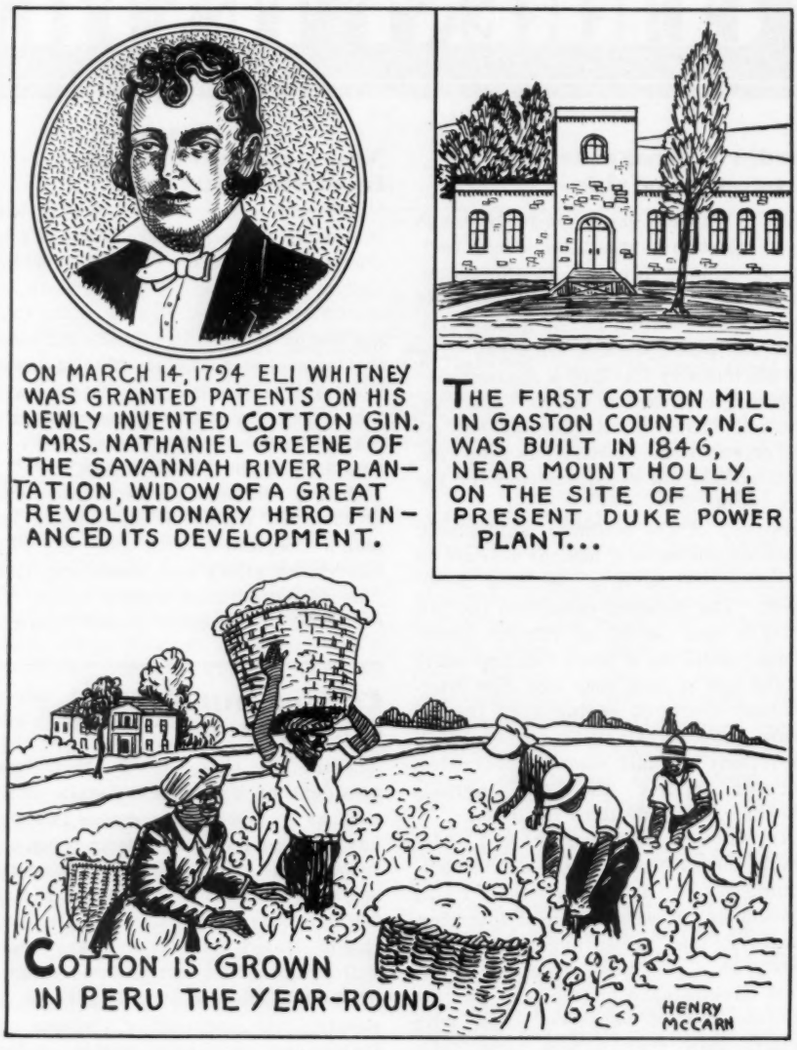
Cotton manufacturers are being encouraged, as previously noted, to look for new heights of demand and production in their industry. The advantages of this natural fiber continue to make it by far supreme among all textiles. But Mr. Myers of North Carolina in his warning against new overproduction, cites the fact that even cotton among the natural fibers is not holding its own relatively with synthetics.

Some observers envisage the day when synthetics will supplant entirely the natural fibers. Mr. Myers notes that cotton consumption has increased only 25 per cent over the 1923-1925 average while rayon has multiplied to 11 times its use of that period.

It may not be assumed as inevitable, however, that synthetic fibers will take the place of natural. Mr. Myers suggests that the producers of the new fibers are more alert; that "the cotton industry is still in the horse-and-buggy stage." Speaking for industrial buyers, moreover, Mr. Kelley suggests the same thing. He says that he knows of several constructions wherein the range has not changed for 20 years.

It looks as though cotton mill men should modernize not only in equipment, but in merchandising. That would demonstrate whether synthetic fibers have an inherent advantage over natural, or whether the idea is just a myth.

TEXTILE HIGHLIGHTS, by Henry McCarn


ON MARCH 14, 1794 ELI WHITNEY WAS GRANTED PATENTS ON HIS NEWLY INVENTED COTTON GIN. MRS. NATHANIEL GREENE OF THE SAVANNAH RIVER PLANTATION, WIDOW OF A GREAT REVOLUTIONARY HERO FINANCED ITS DEVELOPMENT.
THE FIRST COTTON MILL IN GASTON COUNTY, N.C. WAS BUILT IN 1846, NEAR MOUNT HOLLY, ON THE SITE OF THE PRESENT DUKE POWER PLANT...
COTTON IS GROWN IN PERU THE YEAR-ROUND.
HENRY McCARN

New England Mill Situation

FINE GOODS mills are not the beneficiaries directly of defense business to a great extent and the northeastern division of the cotton manufacturing industry has had to depend for the most part on the by-product of our national program. But that is a very substantial by-product, in the stimulated purchasing power that has created broad activity for all phases of production.

Some war orders have accrued for the cotton plants of New England. Sheeting mills, for example, have been given part of the government business. Civilian trade at the same time has developed well over most of the fall and that has put the industry in this section on a high plane of activity all around. Operations are on a sound foundation which augurs a profitable period for many months to come.

Even at the start of November machinery was running at 70 to 80 per cent of capacity, double shift, with mills sold well to the end of the year on output. Prices had already begun to move upward in a distinct way, with buyers realizing that they were obtaining values not likely to be duplicated in later buying. The strengthening of prices continued through the past month, with sellers cautious toward distant business through fear of higher costs to be faced in the general tendency created by the defense plan.

September starts mill pick-up

Beginnings of the broadening mill activity after the summer low point are reflected in the statistics of cotton consumption during September. The total for New England was 72,477 bales, which was under that for August at 73,140 bales, but the number of business days was shorter. The total compares with 72,047 for September, 1939.

Mills of the district were reported to have increased operations in September more rapidly than did those of southern producers. They still were behind in rate, however, by reason of the relatively greater activity that had prevailed in coarse cotton goods in which defense buying already had begun to augment the regular business.

Cotton consumption for the first three quarters of 1940 was 0.1 per cent less than that for the corresponding time last year, in this area. The showing was irregular, however, among the various States. Massachusetts mills consumed 343,357 versus 318,365 bales; Connecticut 47,970 versus 45,214. Their gains were offset by New Hampshire, with 75,573 versus 95,025 bales; Rhode Island, 80,244 versus 83,823 bales; Maine, 106,881 versus 109,474; Vermont, 4,045 versus 6,590 bales.

Prices emerge from loss level

Prices had a rising tendency in the early part of the fall but it was not until November that the market gave evidence of getting above cost levels. In other words, the quotations last summer sank to such uneconomic stan-

dards that a substantial rise was necessary to get them back even to cost basis. The maintenance of raw cotton at a low level through the fall helped toward the return of this basis.

In spite of the low prices for some months, however, the careful operation of plants allowed leading mills to make a good showing for the year. The Berkshire Fine Spinning Associates, for example, largest fine goods producer, reported $592,454 net profit for the year ended September 30, against $284,377 the previous twelve months. A number of mills declared regular quarterly dividends payable in November.

Mill notes mark contrasts in North

One of the few constructive New England mill changes in recent years is the recent plant of the Firestone Cotton Mills to install more than $250,000 worth of new equipment in New Bedford. This includes modern heavy twisters and spoolers to relieve a bottleneck in the plant, which has raised its employee list above 1200.

In the same city, the Kendall Company has sold the plant of the former Holmes Manufacturing Company for liquidation. It had been idle for several months and the looms had been distributed to other plants of the Kendall company. The sale included 60,000 spindles with complimentary machinery.

Pacific Mills recently announced plans for discontinuing production of rayon goods at Lawrence, Mass., and Dover, N. H. Rayon weaving had been tried after it was decided cotton goods could no longer be profitably made at those places. The experiment with rayon on the old machinery was found unsatisfactory.

At Dover, the Pacific plant had been the principal industry for 125 years. It once employed 1400 workers on cotton manufacture. The two plants were announced to continue till orders were filled, indicating some months before final stoppage.

Another textile casualty is the Longmeadow Mills, Inc., of Springfield, Mass., successor to the Harris Silk Company, discontinued for lack of orders.

N. Judson Miller, formerly associated with Hercules Powder Company, has become connected with Quaker Chemical Products Corporation, Conshohocken, Pa., and will contact dyeing and finishing plants in North and South Carolina, Georgia and Alabama. His headquarters are at 1309½ East Boulevard Ave., Charlotte.

"THE SITUATION" as seen Across an Executive's Desk

November 18, 1940

THE COTTON-TEXTILE industry felt the result of the defense program as quickly as any other industry, the obvious reason being that before draftees could be put into camp they had to be clothed. As a result, for several months now impetus of cotton manufacturing has gained momentum and the outlook is that production will be accelerated for some time to come. Because of the Government business which in many instances duplicates regular commercial business cotton mills have felt double pressure as commercial customers rush into purchasing as far ahead as possible in order to protect their interests against Government buying, and of course, in an emergency such as this, Government purchases have priority rights and the industry is exerting every effort to deliver the goods without having to have priorities enforced.

Domestic mill activity continued at a high rate during October, and raw cotton consumption reached nearly 700,000 bales for the month. Reports from mill centers throughout the industry indicate that the large volume of mill sales of cloth and yarn has reduced stocks and that many mills have their production booked clear through 1941. Cotton cloth and yarn prices strengthened considerably during October and mill margins widened, averaging 13.4 cents in October against 12.3 cents in September and 15.8 cents in October, 1939, the ten year average margin being 13 cents.

• An interesting combination of perfectly matched plain and plaid in a pinafore dress for juniors. The fabric is a crush-resistant Teca blend from Jerry Rossman, woven with 50 per cent Teca, Eastman crimped acetate rayon, and 50 per cent viscose rayon. Courtesy, Tennessee Eastman Corporation . . . . . .

Finished cotton goods markets were active and the prices were very strong with additional Government orders being placed from day to day.

In regard to the priority angle, it is said that officials connected with the Defense Commission feel that the textile industry's co-operation has been so thorough and so complete that the necessity for invoking the priorities law is at this time only a remote possibility. Officials say that while things have been a little bit tight on a few items they felt the industry could take care of all requirements. One of the tight spots was on Army tent ducks, as explained by the bid opened October 31 when 9,000,000 yards were required and approximately 1,000,000 yards offered. It is really believed that this bottleneck, like others in the textile industry, is not a permanent one nor would it even be a bottleneck if purchasing was staggered and deliveries made more reasonable, because, of course, the mills have to take time to manufacture the goods and only a few mills have been set up on regular Army fabric production. Others are coming into the picture and within a few months all of this hump will be leveled out and it will be smooth going for everyone.

At a conference of trade association executives at the Waldorf Hotel in New York last month it was felt that the textile industry will be able to supply with a minimum of disturbance to civilian needs the full quantities of goods required under the defense program, and much of the credit for this possibility was given the Defense Commission as it is understood that detail studies of the industry's productive capacity and fluctuations in seasonal demand have been of valuable use in coordinating needs.

One thing is certain: that for a time the industry will have full operation schedules giving employment to the fullest capacity and it will take thought and careful consideration to keep the industry on a level keel after this defense spurt in textile purchasing has simmered down to a slow boil.

The Print Cloth Case

But to get down to a few other things that have come about in the industry. The Print Cloth trial, postponed from October 24 to November 28.

[Note: Defendants entered a plea of

nolo contendere (meaning while they did not admit criminal guilt they would not contest the case.) Judge Alva Lumpkin, who presided, fined each defendant one hundred dollars, declaring that if he was on a jury considering the case, he would "probably be the first to cast a ballot of 'not guilty'."] The defendants—J. E. Sirrine, Fred W. Symmes, Ellison S. McKissick, David W. Anderson, and John B. Harris—were members of the committee in charge of the 1939 Summer Print Cloth Production Control Program and it was understood that the committee shouldered the responsibility rather than have it fall on each individual participating plant.

It is interesting in view of this to learn that the Supreme Court has agreed to review a decision held that the Federal Government was not a person and therefore not entitled to recover triple damages for asserted violations of the Sherman Anti-Trust Act by price fixing among competitors. This is the first case of its kind ever brought and concerned 17 rubber tire manufacturing companies. It was held by the circuit court that the provision of the Sherman Act permitting "any person" to sue for triple damages resulting from conspiracies which restrain interstate commerce did not apply to the Government.

Attorneys for the rubber companies said the litigation did not involve the right to punish anti-trust law violations by fine, imprisonment or injunction but whether three-fold damages could be obtained in addition. "The Government had never before in the 50 years of the act's existence even claimed this punitive right," it was said.

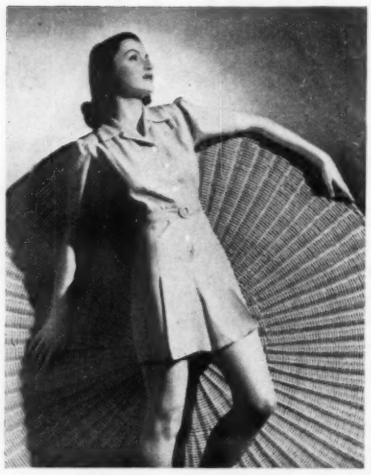
The Government's petition charged the companies with an illegal conspiracy to fix "collusive prices" which were "identical to the penny."

The Firestone, Goodrich, and Goodyear tire companies were involved.

Wage-and-Hour Developments

Several wage-hour developments have taken place. The industry is on an industry-wide 40 hour basis beginning October 24. This one thing is also contributing to the slow-up of production on defense purchases as prices do not justify paying time and a half for over-time.

That the wage-and-hour division of the U. S. Department of Labor has the right to subpoena payroll records was upheld by the Supreme Court in a decision October 28 when it refused to review the Montgomery Ward & Company case, which clearly gives the wage-hour inspector the privilege and right to all routine inspection such as they have been making.



• **A playsuit that comes with a skirt—or goes with or without. In pin-striped sharkskin from Cameo Fabrics, woven entirely of Eastman acetate rayon. It is smooth, crisp and washable . . .**

And speaking of wage-hour developments, we find that mills working on Government contracts may apply the regulations of the wage-hour division as the text for coverage or non-coverage of employees subject to the Walsh-Healey Act wherever it is possible to do so under the language of the Fair Labor Standards Act and the Public Contracts Act. L. Metcalfe Walling, administrator, said with special reference to the recent regulations issued by the wage-hour division covering administrative, professional, and executive employees the Walsh-Healey Act will regard employees of the company having a Government contract as *prima facie* exempt if they are exempt under this new regulation. This will mean, for instance, that the provision defining "foreman" will be complied with *prima facie* if the foreman for whom exemption is claimed is exempt under the wage-and-hour act and regulation. Likewise, supervisory employees exempt under the provision of the wage-hour act will be considered *prima facie* under the Public Contracts Act.

Is there a connection between the purchase of 80,000 bales of cotton by the Soviet Government and the recent intimation that the Soviet might join the Axis powers? Students of cotton agriculture and the textile industry realize immediately that it is an unusual situation for Russia, which has long grown all the cotton and more than it needs for its own industry, to suddenly pay cash for 80,000 bales of American cotton; and that along with the cash for the cotton were navicerts from the British Government guaranteeing freight.

Some new developments in the technical end include a hearing before the Federal Trade Commission on November 19 of a code of fair trade practices for the hosiery industry. This move was begun two years ago and the first hearing was held at the Knitting Arts Show in Philadelphia in April, 1938. Work has been going along on this code ever since and the proposed rulings may result in adoption after the hearing.

The Bureau of Standards is issuing net moisture regain specifications for cotton yarns, mercerized and unmercerized, all of which show that despite the flurry of a boom, steady and constructive work in the cotton industry goes forward.

New Textile Publications

Fidelity Machine Company, 3908 Frankford Ave., Philadelphia, Pa. Literature descriptive of a new type of bag closure.

Platt Brothers & Co., Ltd., Hartford Works, Oldham, England. Booklet introducing a new revolving flats carding engine.

E. I. Du Pont de Nemours & Co., Inc., R. & H. Chemicals Department, Wilmington, Del., facts concerning polyvinyl acetates, the thermoplastic resins produced by the company.

B. F. Goodrich Company, Akron, Ohio. Information on line of industrial fire hose for mill and office, plant protection, etc. Also described are swivel gaskets made of Koroseal.

Burkart-Schier Chemical Company, Chattanooga, Tenn. Booklet of interest to manufacturers and processors of chenille textiles, with detailed information given on pre-spotting, dyeing, washing, and finishing of chenille and tufted bedspreads, bath-mats, etc.

"The Textile Application of Metasol (Calgon)", a handbook giving detailed information on the wet-processing operations of scouring, bleaching, dyeing and finishing; divided into sections applying to the uses of this material on major textile fibers, and in processing all types of hosiery. Suggested procedures, formulae and other practical data are included.

Textile Industry Research, Inc., 11 W. 42nd St., New York City. Folder describing the consulting services of the company, relating to costs of production, quality, etc.

Brown Instrument Company, Wayne and Roberts Avenues, Philadelphia, Pa. Two illustrated descriptive booklets, No. 6706 on thermometers and pressure gauges, and No. 2007 on electric flow meters.

C-O-Two Fire Equipment Company, Newark, N. J., Booklet entitled "In Case of Fire", describing the uses of carbon dioxide for fire extinguishment.

Exact Weight Scale Company, Columbus, Ohio. "The Story of Modern Industrial Weighing", an illustrated folder.

Reliance Electric & Engineering Company, Ivanhoe Road, Cleveland, Ohio. Bulletin No. 19 on the Type AA induction motors of squirrel-cage type.

Calco Chemical Division of American Cyanamid Company, Bound Brook, N. J. Technical Bulletin No. 570 on "The Dyeing of Fast Colors on Spun Rayon Fabrics", prepared by Ormond W. Clark. Covers dyeing fast colors on spun rayon and on mixtures of spun rayon with cotton, linen and acetate.

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa. 14-page illustrated booklet on Type R kilowatt hour demand meters, designed for use in industrial, central station and other plants where continuous records of electrical demand is essential.

New 8-page illustrated bulletin which describes and gives valuable information on the Type B line of oil circuit breakers designed especially for indoor industrial and central station use.

Rohm & Haas Co., Philadelphia, Pa. "Textile Chemicals", a new catalog of the company's chemicals including reducing and stripping agents, synthetic resins and thickeners, enzymes, wetting and scouring agents, etc.—describing each, its properties and uses.

LET'S TACKLE THE JOB··· TOGETHER

MORE adequate working capital is essential in meeting the growing needs of Southern Industry with its constantly increasing industrial activity.

This Company, by working closely with your Company, has *immediately accessible facilities* to meet the need for larger working capital. Southern Factoring provides adequate funds to convert your orders, large or small, into immediate cash. Thus, you eliminate credit losses, reduce collection costs, take trade and cash discounts, meet payrolls and purchase raw materials at substantial savings.

Our Factoring Service is both speedy and economical. It will prove invaluable in added profits from adequate working capital. *Your inquiry is invited.*

Factoring Division

THE TRUST COMPANY *of* GEORGIA

ATLANTA

MEMBER FEDERAL RESERVE SYSTEM

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

COMMENT on the COTTON MARKET

New Orleans, November 16, 1940

DESPITE the spread of the European war to the eastern Mediterranean, favorable weather for harvesting, an indicated larger U. S. crop than last month and very small exports, the trend of the cotton market was upward.

Sustaining features of the market were the continuance of a brisk demand for cotton goods, the movement of much of the new crop to storage under government loans which has prevented free offerings, and the continuance of heavy domestic consumption of raw cotton.

These developments made for more active trading and although hedging and realizing was much in evidence at times, investment buying was such as to absorb the hedging and liquidation.

Government Crop Forecast

Returns to Washington, as of November 1, point to a yield of 12,847,000 bales, a gain of 106,000 bales for the month, which was somewhat larger than generally expected. The crop progressed slightly over most of the belt, with small losses on account of dryness in Mississippi, Alabama, and Georgia. The indicated yield per acre was raised to 252.1 pounds versus 250.0 last month.

Considering the size of the indicated crop, ginnings to November 1 were 9,084,000 bales compared with 10,079,000 ginned to the corresponding time last season.

Domestic Consumption and Carry-Over

According to a recent Washington press report, domestic consumption of cotton during this season will reach an all-time record, the Bureau of Agricultural Economics reported as it again raised its estimate of probable consumption in the United States.

While the Bureau fixed its estimate of domestic consumption at approximately 8,750,000 bales, it conceded that the final consumption figure may exceed even 9,000,000 bales. This would be more than 1,000,000 bales above the previous record established in 1936-37, when approximately 8,000,000 bales were processed.

Despite this marked increase in domestic consumption, the prospects, said the Bureau, are that the carry-over of American cotton will be nearly as great as it was last year. This will be due to the decrease in exports which may fall off as much as 4,000,000 bales.

The Bureau now estimates that exports will probably not exceed 2,000,000 bales, although earlier this season it had thought that exports might range between 2,500,000 and 3,000,000.

The world's effective demand for cotton seems likely to be much less this season than last. If the British blockade continues in effect, world demand probably will be the weakest for several years. Practically all of continental Europe, excluding Russia, is cut off from exporting countries by the British blockade. Furthermore, consumption prospects in Japan, China and Great Britain are less favorable this season than last. Through a reduction in stocks, foreign consumption of American cotton may possibly exceed exports from the United States by 1,000,000 or over 1,500,000 bales.

Under the program most of the domestic stocks of old crop cotton is being withheld from trade channels, and a large part of the 1940 is eligible for Government loans, which program seems to support values in the face of weak world demand conditions.

The Commodity Credit Corporation, Washington, reported November 13 that 1,650,082 bales of 1940 cotton had been stored under Government loans through November 12. The loans totaled $79,852,227. Loans to co-operatives totaled $10,182,675 on 210,608 bales.

Since domestic consumption promises to be of record-breaking proportions this season, perhaps around 9,000,000 bales, and with so much of the 1940 crop going into Government loans, there may be a scarcity of free cotton later in the season even if exports should fall to 2,000,000 bales. The position of "free" cotton could become stronger, especially if exports should promise to be larger than expected or if 1940 cotton should continue to move in volume into storage under Government loans. Although October United States consumption was nearly 100,000 bales larger than for October last year, American mill stocks October 31 were 105,000 bales smaller than on corresponding date last season. Under the circumstances it looks as though the supply of "free" cotton could work into a rather tight position eventually. Certain price levels meanwhile, however, would likely bring increasing offerings on the market.

CENSUS REPORT, NOVEMBER 14, 1940

United States—Bales—	This Season	Last Season
Consumption of lint in Cotton-Growing States, Oct.	652,000	579,000
Consumption of lint in New England States, Oct.	97,000	87,000
Consumption of lint in All Other States, Oct.	21,000	21,000
Consumption of lint in United States, Oct.	770,000	687,000
Consumption of lint in Cotton-Growing States, 3 mos.	1,766,000	1,647,000
Consumption of lint in New England States, 3 mos.	243,000	237,000
Consumption of lint in All Other States, 3 mos.	55,000	57,000
Consumption of lint in United States, 3 mos.	2,064,000	1,941,000
Mill stocks, Ocotber 31	1,354,000	1,459,000
Stocks in public storage and at compresses Oct. 31.	13,848,000	15,504,000
Stocks in mills, public storage and at compresses Oct. 31.	15,202,000	16,963,000
Stocks in mills, public storage and at compresses Sept. 30.	11,523,000	15,074,000
Active spindles in Cotton-Growing States during Oct.	17,006,000	16,973,000
Active spindles in New England States during Oct.	4,849,000	5,078,000
Active spindles in All Other States during Oct.	602,000	617,000
Active spindles in United States during Oct.	22,457,000	22,668,000
Active spindles in United States during Sept.	22,278,000	22,231,000

AMERICAN COTTON—CONSOLIDATED MOVEMENT

August 1 to November 15—Bales—	This Season	Last Season
Receipts at United States ports	1,716,000	3,396,000
Exports to Great Britain	269,000	693,000
Exports to France		280,000
Exports to Continent	122,000	752,000
Exports to Central and South America	7,000	19,000
Exports to Orient	25,000	352,000
Total exports from the United States	423,000	2,096,000
Stock in New Orleans, November 15	527,000	685,000
Stock at all United States ports, November 15	3,148,000	3,016,000

Arthur Black is Southern Manager for Textile-Finishing

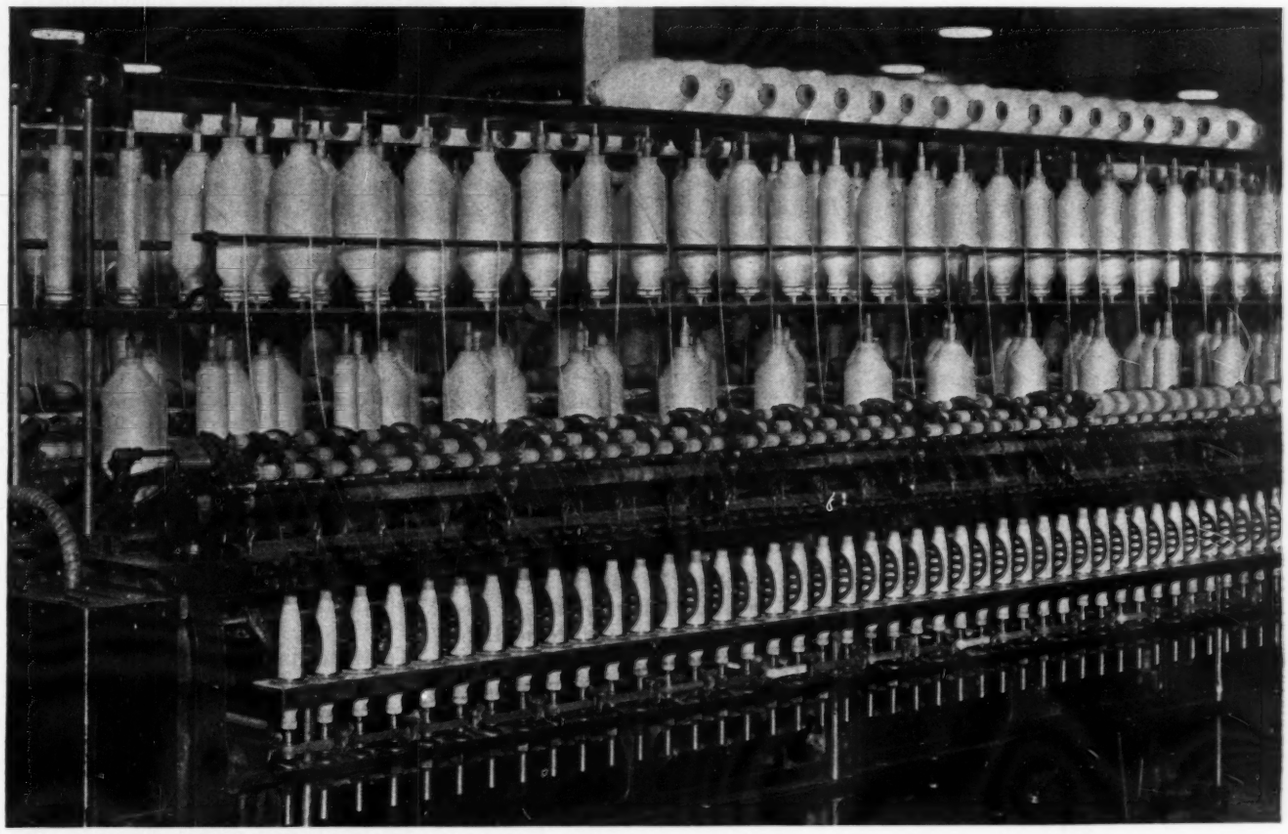
The Textile-Finishing Machinery Co., Providence, R. I., has announced that its branch office at 614 Johnston Bldg., Charlotte, N. C., is now its exclusive headquarters in the southern territory, and that Arthur F. Black has been made southern district manager. Byram B. Scantland will continue in the Charlotte office, assisting Mr. Black. Samuel A. Moffitt, until recently a sales engineer in the Charlotte office, has been transferred in a similar capacity to the Providence headquarters.

Atlanta Branch of F. H. Ross & Company to Occupy New Quarters

The Atlanta (Ga.) branch of F. H. Ross & Company, Inc., of Charlotte, N. C., will move into new and larger quarters from their present location at 637 Whitehall St., S. W., during December. The new quarters, being constructed for the Ross company, are located at 215 Chester Ave., S. E., Atlanta. The new office and warehouse facilities at this point will have approximately 20,000 square feet of space for handling the complete line of textile processing chemicals distributed by this organization. The railroad siding on the A. & W. P. R. R., and enlarged warehouse facilities will provide better means of handling incoming carload shipments and for outgoing shipments to mills in Georgia, Alabama and Tennessee. The building is of brick fireproof construction.

Among the companies represented by the Ross organization are: Mutual Bichromate Co. of America, Commercial Solvents Corp. of Del., Mathieson Alkali Works, Solvay Sales Corp., Diamond Alkali Works, Monsanto Chemical Co., Philadelphia Quartz Co., Warner Chemical Co., Pennsylvania Salt Mfg. Co., Stauffer Chemical Co., R. & H. and Grasselli divisions of E. I. du Pont de Nemours & Co., John L. Lewis & Sons, Wm. S. Gray Co., Dow Chemical Co., and Procter & Gamble Co. George E. Missbach and F. H. Ross, Jr., are associated with the Atlanta office.

"CORK IS IDEAL FOR *Spinning Rayon*" *say Riverside and Dan River Cotton Mills*



BETTER RUNNING WORK *results when mills switch to cork cots. This close-up shows a frame spinning staple rayon in the Riverside and Dan River Cotton Mills, Danville, Va. The efficient Armstrong's Cork Cots can be counted on to give long, money-saving service.*

RIVERSIDE and Dan River Mills, like scores of other progressive mills, find that for ability to draft out wiry rayon fibres economically—there's nothing like Armstrong's Cork Cots.

But the economy these cots bring to your mill doesn't stop here. For cork cots give better running work . . . fewer top roll laps . . . less end breakage. Furthermore, they help you to turn out a better, more uniform product, eliminate eyebrows, and cut down clearer waste.

Because these cots cost no more than your old roll coverings, and because of their faster, cheaper assembly, your savings start immediately. But these savings will continue to mount steadily as time goes by, because Armstrong's Cork Cots last longer—and can be renewed *three or four times* by rebuffing, at a cost of about ½¢ per roll!

Let an Armstrong representative show you actual production figures of mills spinning your range of numbers on cork. Or write Armstrong Cork Company, Industrial Division, Textile Products Section, 923 Arch St., Lancaster, Pennsylvania.

ARMSTRONG'S *Extra Cushion* SEAMLESS CORK COTS

CORK PRODUCTS SINCE 1860

TIMELY NEWS ITEMS with a TEXTILE SLANT

Pennsylvania Salt Mfg. Company's board of directors recently re-elected Leonard T. Beale, president, and Y. F. Hardcastle and N. Emory Bartlett as vice-presidents. L. A. Smith, formerly secretary-treasurer, was also elected as vice-president, being succeeded by Warner R. Over.

Harold B. Thomas, one of the founders of the Elastic Stop Nut Corporation, Union, N. J., and vice-president in charge of sales, has resigned to enter consulting work in industrial product analysis and market research. He remains active as a director and member of the executive committee of the corporation.

Joseph H. Lee of New York City, has been placed in charge of all lubricant sales east of the Rocky Mountains for the Shell Oil Company, Inc. He has been with the company for the past 18 years. Mr. Lee's appointment is part of a move combining Shell's eastern and mid-western marketing and producing units, with executive offices in the RCA Building, New York City, and 12 divisional offices east of the Rocky Mountains.

Howard Brothers Manufacturing Company, with headquarters at Worcester, Mass., have announced plans for the erection of a modern $20,000 building on Linwood St., in Gastonia, N. C.

The Cotton-Textile Institute has placed in the Smithsonian Institution fabric fashion highlights of the current fall and winter season, representing the important new styling trends in cottons. The exhibit will be changed twice yearly.

Textile Designers, Analysts and Technicians Association held its first fall meeting in Coventry, R. I., October 26, with lengthy discussion being held on defense. Alfred Higgins of Fall River, Mass., told of his experience through a plant making gas masks for the government.

Roger W. Cutler, who conducts his spinning tape business under his own name, has been accepted for active duty as Lt. Commander of the air division, U.S.N., and is now stationed at Pensacola.

Samuel A. Salvage, retired president of American Viscose Corporation, has been elected honorary member of the American Association of Textile Technologists, in recognition of outstanding contributions to the textile industry. He is the first to be similarly honored since November 1939.

Frank Waldo and **James B. Gaskins** have become associated with the Columbia Alkali Corporation as members of the technical service department, the former in the capacity of market research specialist.

L. G. Atkinson, Wadesboro, N. C., has been appointed manager of a new section of the circuit breaker sales department of Westinghouse Electric & Mfg. Co.

Tennessee Eastman Corporation and American Institute of Laundering have completed arrangements for a laundry testing and possible approval service of fabrics made from Eastman rayon yarn. In this testing service, Eastman is most interested in its crimped acetate staple as a stabilizing agent for spun rayon fabrics.

F. W. Warrington Company, Charlotte, N. C., have been appointed southern representatives for Rodney Hunt Machine Company, Orange, Mass., manufacturers of Tru Shade dyeing machines.

Philadelphia Textile School has purchased from the Whitin Machine Works the textile machinery on display at the Shelton Looms exhibit in the Ford Building, at the New York World's Fair. Included are a 40-inch card, stripper, burnisher, long grinder and two traverse grinders, 4-delivery Model K drawing frame, 36-spindle long draft roving frame, 36-spindle long draft spinning frame, and a sewing machine. The foregoing equipment is individually motor driven and is finished in chromium and nickel trim.

National Oil Products Company, Harrison, N. J., has merged the laundry division with Division H of the industrial sales department, with Marvin S. Eavenson, formerly with Colgate-Palmolive-Peet Company, as divisional manager.

Elliott Service Company, 219 East 44th St., New York City, publishers of "Management Information", has announced that a series of articles will be run on "How to Train Men Suickly", a timely subject.

F. L. Curtis, treasurer of Raybestos-Manhattan, Inc., was elected a director of the Rubber Manufacturers' Association at the annual meeting in New York during October.

Columbia Alkali Corporation has established a sales office at Charlotte, N. C., which is in charge of J. R. Simpson of Durham, N. C., a graduate of Duke University.

G. V. Nightingale has succeeded D. J. Carmouche as textile representative for The Celotex Corporation, with headquarters at O'Henry Hotel, Greensboro, N. C.

David C. Miller has been added to the service staff of Eshelman & Potter, Charlotte, N. C. Mr. Miller is a Hall Laboratories engineer with experience in the theory and practice in the Hall system of boiler water conditioning, and will represent Eshelman & Potter in water conditioning service work in the Southeast.

Testimonial Dinner to Kaufmann and Freitag

John J. Kaufmann, president and general manager, and Robert J. Freitag, secretary-treasurer and sales manager, of Steel Heddle Mfg. Co., Philadelphia, were honor guests at a colorful testimonial dinner given by the stockholders of the company in December. The event was in honor of 40 years of service to the company by Mr. Kaufmann, and 30 years service by Mr. Freitag. About 100 guests, comprising the stockholders and their families, attended. A handsome souvenir book, with photographs of all of the employees in the branch offices and plants of the company was presented to Mr. Kaufmann and Mr. Freitag. Ernest K. Halbach, president of General Dyestuff Corp., New York, and vice president of Steel Heddle Mfg. Co., acted as toastmaster. John Gwillian and H. Walford Martin, directors of the company, were in charge of the dinner arrangements.

Robert T. Stevens Named General Foods Director

Robert T. Stevens, president of J. P. Stevens & Co., Inc., New York City, which merchandises the products of 54 textile plants in New England and the South, making woolens, cottons, rayons, and linens, has been elected a director of General Foods Corporation succeeding the late Walter P. Chrysler.

Presenting

AMYLEX

—the Original

SLOW-CONGEALING STARCH PRODUCT

Made Expressly for Warp Sizing!

- The slow-congealing feature produces strong, smooth-surfaced warps, and eliminates crusting or lumping.
- Fats are either eliminated or greatly reduced—thus preventing flaking, excessive shedding, and loom breaks. Likewise, tensile strength is increased.
- Brighter, stronger colors are obtainable on dyed warps—owing to the transparency and uniform penetrating properties.

AMYLEX, being a thin-cooking starch, has the proper penetration, yet coats the fibres like an expensive gelatin or potato starch size. It is a pure form of modified starch, containing no chemicals nor fats, and is commercially uniform at all times. Its price is only 60c per cwt. over Pearl Corn Starch, the same as standard Thin Boiling Starches.

Write us the amount you need for a trial. We will gladly send it on approval.

NATIONAL STARCH PRODUCTS Inc.

820 GREENWICH STREET, NEW YORK

What the Southern Mills Are Doing

Dalla-Noval Yarn Mills, Dallas, Ga., has installed new Foster winders.

The name of the former J. W. Sanders Cotton Mill, Magnolia, Miss., has been changed to Magnolia Textiles, Inc. New equipment is said to have been installed.

Roanoke Mills Company, Roanoke Rapids, N. C., is building a modern 44x 118-foot one-story building to house the general and central offices of the company. It is estimated that the cost of construction will be $35,000.

Blueridge Company, Glasgow, Va., manufacturers of rugs and carpets, has approved plans for erection of a one-story addition of approximately 75,000 square feet of floor space, which will cost $175,000 with equipment.

Standard-Coosa-Thatcher Company, Piedmont, Ala., has let a contract to H. Y. Dempsey for a 155x107 foot addition to Mill No. 1. The addition will house the finishing and shipping department.

Flint Manufacturing Company, Gastonia, N. C., has purchased 16 spinning frames and five cards, which will be installed in the No. 2 plant of the company.

Bibb Manufacturing Company, Macon, Ga., is constructing a one-story addition to the Payne Plant at a cost of $85,000, with Lockwood-Greene as architects.

It is reported that the Virginia Mills, Inc., Swepsonville, N. C., has under way an expansion program including construction of one new building and addition to another.

Sanford (N.C.) Cotton Mill has resumed operations, giving work to 200 persons; the mill has been idle for several months.

Paul Rhodes, it is understood, has acquired controlling interest in the Rhodes-Rhyne Mfg. Company, Lincolnton, N. C.

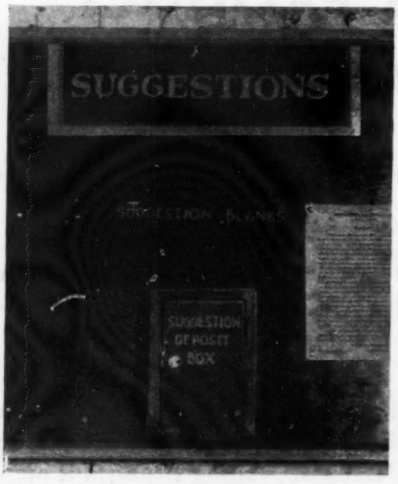
Morgan Mills, Rome, Ga., is a new concern organized by R. A. and Gray Morgan to manufacture rubber elastic yarns for the knitting trade.

Appleton Company, Anderson, S. C., is said to be building a 4-story addition to its clothroom warehouse. Cost is $75,000.

Groves Thread Company, Plant No. 2, Gastonia, N. C., has installed two new high-speed Foster winders to replace older models.

Mauney Mills, Inc., Kings Mountain, N. C., has installed new 5-roll drawing frames and lap winders, manufactured by Saco-Lowell Shops.

Bristol (Tenn.) Weaving Company, according to reports, has installed 24 additional looms for the manufacture of rayon goods.



Photo, John C. Fonville of "Cotton"

● Officials at the North Georgia Processing Company, Toccoa, Ga., give the plant employees credit for being able to suggest new ideas pertaining to running their jobs, and then encourage the employees to submit the suggestions to the management. It realizes that no one knows more about the particular job than the employee that is running it.

The accompanying photo shows the bulletin board and suggestion box at this plant, with suggestion blanks available for writing down the ideas, which are then dropped in the box. It is not necessary for the employee to sign his or her name because each suggestion blank has a numbered stub, which is later posted on the bulletin board to notify the person submitting the idea that the management wishes to discuss it with the employee.

If the suggestion is accepted by the management, it is put into practice and the one suggesting it is given a cash award, based on the suggestion's value to the company. If the suggestion is not practical, a letter is written the employee advising why it was rejected.

In order to decrease the submission of many unimportant suggestions, a list has been prepared showing what the company considers acceptable suggestions, such as reducing the cost of production; prevention of waste of materials, labor, power and floor space; improvement in methods of manufacturing, quality of product, equipment, working conditions, etc.; and safety methods.

All employees, including supervisors, are eligible to submit suggestions to the management.

The headquarters office of the Aponaug Manufacturing Company, formerly located at Jackson, Miss., has been moved to Kosciusko, Miss.

Marshall (N.C.) Mill and Power Company has resumed operations after being closed for some time.

American Thread Company, Dalton, Ga., has erected a modern office building.

Klumac Cotton Mills, Salisbury, N. C., according to reports, will be reopened shortly.

General Textile Mills, Inc., Cumberland, Md., have reopened after being idle for several months.

Pacific Mills Discontinues Weaving of Rayon Fabrics

Pacific Mills have announced that their rayon weaving divisions at Lawrence, Mass., and Dover, N. H., will be discontinued, and the machinery in these plants, after present orders are filled and except for such as may be useful in the company's cotton and worsted mills, will be sold.

This action in no way affects the company's rayon finishing and merchandising activities at Lawrence and New York; a larger proportion of the company's gray fabric requirements has always been purchased from outside plants. The management explains that when it discontinued its cotton manufacturing at Lawrence and Dover some years ago, the plants there were converted to rayon in the hope of continuing these facilities, but that since these rayon divisions have not proved successful, they will be closed. "Our studies show," the management announced, "that if these divisions are to be continued large expenditures should be made for new modern rayon machinery in place of certain of the cotton machinery of which the company has made use, and the company does not feel that such expenditures are justified or offer prospect of sufficiently successful operations in the future."

◆

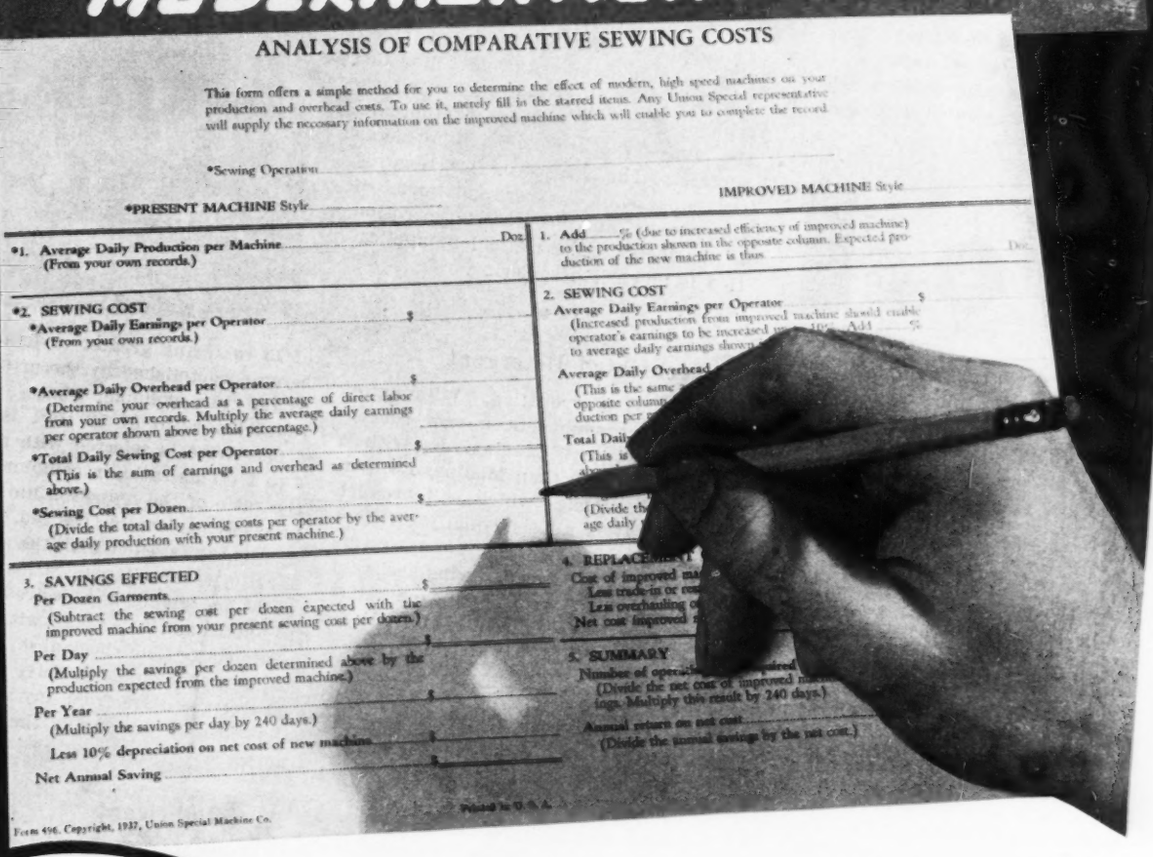
Rayon Production Figures

October shipments of rayon yarn aggregated 36,900,000 pounds, states the current issue of the *Rayon Organon*, published by the Textile Economics Bureau. This compares with shipments of 30,900,000 pounds in September and 34,800,000 pounds in October 1939. The stocks held by producers at the end of October totaled 6,800,000 pounds, less than a week's yarn supply.

Production during the third quarter of the year (filament) was 92,900,000, lower than usual because of flood conditions at some plants in August, and strikes in the acetate division. Shipments during the quarter were 97,000,000 pounds.

United States production of staple fiber, somewhat below the quarterly record of 20,500,000 pounds for the first quarter of the year, still was slightly over the production of the second quarter.

A GOOD STARTING POINT *for a sound "PLANT MODERNIZATION PROGRAM"*



ANALYSIS OF COMPARATIVE SEWING COSTS

This form offers a simple method for you to determine the effect of modern, high speed machines on your production and overhead costs. To use it, merely fill in the starred items. Any Union Special representative will supply the necessary information on the improved machine which will enable you to complete the record.

*Sewing Operation

*PRESENT MACHINE Style — IMPROVED MACHINE Style

*1. Average Daily Production per Machine ... Doz.
(From your own records.)

1. Add ... % (due to increased efficiency of improved machine) to the production shown in the opposite column. Expected production of the new machine is thus ... Doz.

*2. SEWING COST
*Average Daily Earnings per Operator ... $
(From your own records.)

*Average Daily Overhead per Operator ... $
(Determine your overhead as a percentage of direct labor from your own records. Multiply the average daily earnings per operator shown above by this percentage.)

*Total Daily Sewing Cost per Operator ... $
(This is the sum of earnings and overhead as determined above.)

*Sewing Cost per Dozen ... $
(Divide the total daily sewing costs per operator by the average daily production with your present machine.)

2. SEWING COST
Average Daily Earnings per Operator ... $
(Increased production from improved machine should enable operator's earnings to be increased ... Add ... %
to average daily earnings shown ...

Average Daily Overhead ...
(This is the same ... opposite column ... duction per ...

Total Dail ...
(This is ...

(Divide th ...
age daily ...

3. SAVINGS EFFECTED
Per Dozen Garments ... $
(Subtract the sewing cost per dozen expected with the improved machine from your present sewing cost per dozen.)

Per Day ... $
(Multiply the savings per dozen determined above by the production expected from the improved machine.)

Per Year ... $
(Multiply the savings per day by 240 days.)

Less 10% depreciation on net cost of new machine ... $

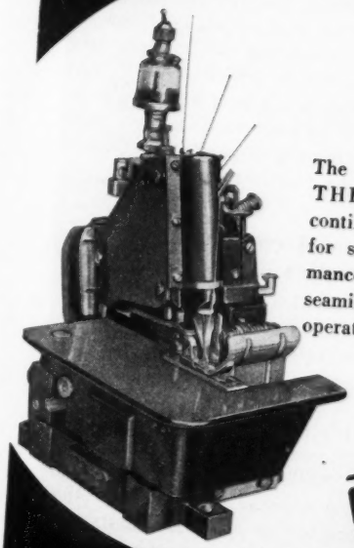
Net Annual Saving ... $

4. REPLACE ...
Cost of improved ma ...
Less trade-in or rea ...
Less overhauling o ...
Net cost improved ...

5. SUMMARY
Number of operati ... required
(Divide the net cost of improved ma ... ings. Multiply this result by 240 days.)

Annual return on net cost ...
(Divide the annual savings by the net cost.)

Form 496. Copyright, 1937, Union Special Machine Co. Printed in U. S. A.



The compact, high speed THIRTY-NINE-TWO continues to set the pace for standards of performance on countless overseaming and overedging operations.

"WHERE to start?" that is the question that invariably confronts the manufacturer who wants to modernize his plant production facilities. As a result of having participated in hundreds of such programs. Union Special engineers have worked out a number of practical plans for procedure that make it easy for any needle trades manufacturer to quickly obtain a good picture of the possibilities . . . the limitations . . . the benefits offered by latest methods and equipment. Form No. 496 illustrated above is an example of one of the useful tools Union Special representatives have to work with when making a survey of your requirements. We invite you to take advantage of this service. No obligation.

"Balanced A UNION SPECIAL MACHINE Production"

UNION SPECIAL MACHINE CO.

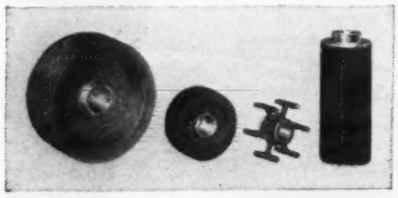
438 N. Franklin St. • Chicago, Ill.

"World's Largest Exclusive Manufacturer of Industrial Sewing Machines."

NEW EQUIPMENT and MATERIALS

Small and Medium-Size Fiber Rolls Developed

Rockwood Manufacturing Co., Indianapolis, Ind., have announced the development of a new construction for small and medium-size fiber rolls which



provides a tough rugged hub and spider of zinc alloy cast under high pressure right into the body of the fiber. These rolls, it is explained, are designed especially for use on machines equipped with rolls, frictions or pulleys whose purpose is to transmit power by carrying tapes, ribbons, or belts, or by rolling contact with other parts; for these applications, it is explained, a minimum of slip is permitted by fiber rolls with consequent increased machine performance.

Joining Aluminum and Its Alloys

Colonial Alloys Company, Colonial Philadelphia Building, Philadelphia, Pa., has announced Colaweld T Rod for the joining of aluminum and its alloys without flux. It is said to eliminate the necessity of roughening the metal surfaces. The absence of flux removes the dangers of toxicity and burns to the worker, and progressive corrosion to the metal. The method of application is much like soldering.

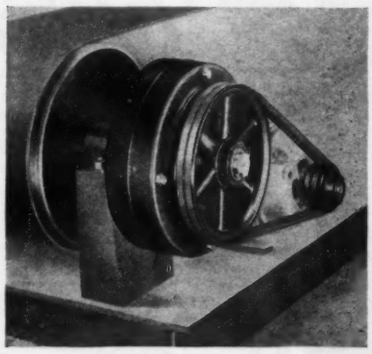
◆

Concentrated Detergent

Gardinol Corporation, Wilmington, Del., has brought out a new concentrated detergent, Modinal D, with a greater strength than Modinal ES, permitting economies which will broaden its use. It is almost equally efficient in hard and soft water as a wetting and penetrating agent, dyeing assistant and general all around surface active agent. It is recommended for all fibers.

Reduction Drive

American Pulley Company, Philadelphia, Pa., has introduced a new method of speed reduction, consisting of two major elements. A helical-gear reduction which mounts directly on the shaft of the driven machine and a standard belt drive between the motor and the input shaft of the reduction unit. The unit itself has a standard, fixed ratio



of 13 to 1, any greater or lesser ratios being accomplished by the primary belt drive. For example, where an overall reduction ratio of 52 to 1 is desired, a belt drive is selected with a ratio of 4 to 1. This ratio, in combination with the ratio of the reduction unit, delivers precisely the speed desired. Five reduction units, each with the same 13 to 1 ratio, cover all applications from ½ to 30 hp., giving any desired speed between 11 and 215 r.p.m. with standard equipment. The shock-absorbing action of the primary belt drive is said to protect the gears from any shock loads, thus greatly prolonging the life of the unit.

◆

New Lubricant

Borne Scrymser Company, 17 Battery Place, New York City, is now offering mased lubricant No. 177 for the lubrication of ball and roller bearings on machinery operating at temperatures from 0 degrees to 500 degrees F. At room temperature it is of a buttery consistency. It is said to have met with acceptance for use in the lubrication of dryers in the textile industry.

◆

Report on Mechanical Properties of Cotton Fibers

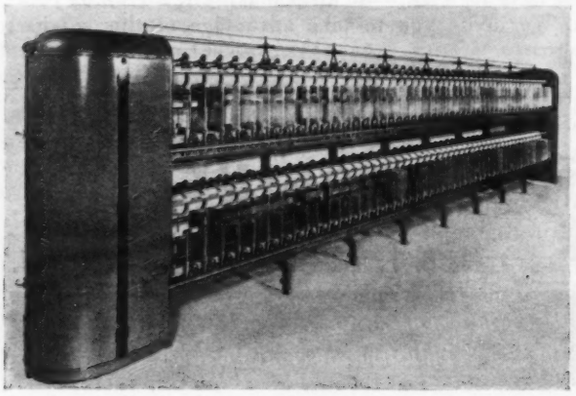
The National Cotton Council, Memphis, Tenn., has announced that a comprehensive, critical survey of information on the constitution, structure, and mechanical properties of cotton fibers is available upon request. The study was conducted under the auspices of Dr. R. F. Nickerson at the Mellon Institute, and summarizes knowledge that is of value to cotton technologists who seek to adapt cotton to new uses or to improve its serviceability in older uses.

New Atwood Twister

The Atwood Machine Co., Stonington, Conn., have announced a new twister, Model No. 110, developed to meet the requirements of large and balanced package production of silk, rayon and combination yarns.

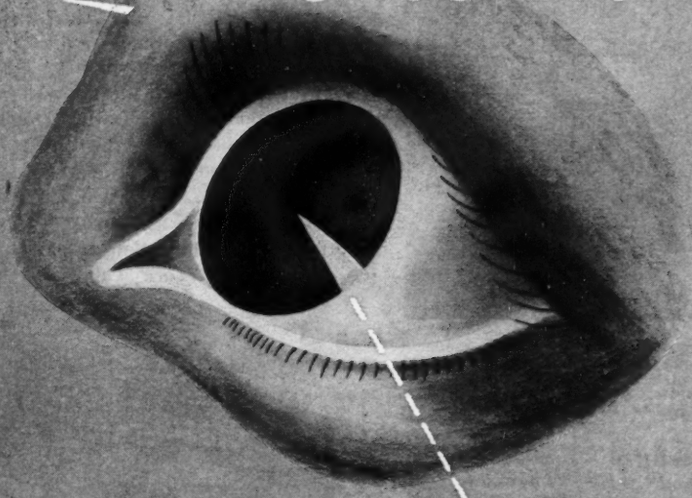
Both the drive end and the gear end are totally enclosed, but are readily accessible. A compact gear unit permits adjustment of gearing from right to left hand twist in less than a minute. The twist unit is equipped with spiral beveled gears and constant lubrication is maintained by an oil pump built in as an integral part of the unit. No oil seals are employed, and oil leakage is eliminated.

The take-up rolls are extra large. Accurately machined bobbin hangers are used instead of fingers. Spindle construction has been improved, and spindles are equipped with a resilient brake designed to prevent application of excessive pressure against the whirls. The separators are wider and more rigid; the motor is tripod-mounted on ball-bearing wheels. Belt tension is controlled by a heavy mainspring take-up.



The traverse mechanism employs a large, heavy cam operating in a bath of oil. Traverse bars are constructed of a special box-shaped steel to prevent dirt accumulation. A slight turn of a small adjustment button sets the traverse length precisely; a wide range of traverse can be covered without changing the cam.

Like The Human Eye



with its

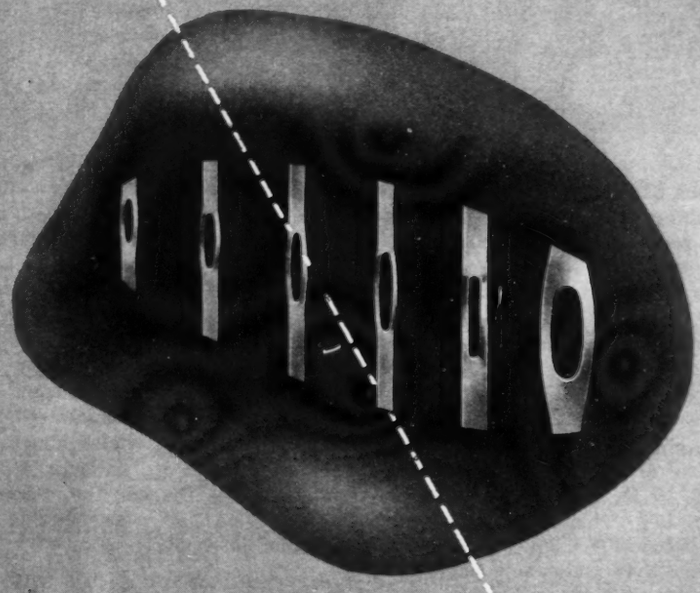
iris, pupil, cornea and all of the amazing details nature took care of to give the eye its super sensitivity and tremendous power of perception

QUALITY LOOM HARNESS EQUIPMENT

Stehedco

with their

perfectly shaped, highly polished and scientifically treated Heddle Eyes have been hyper-critical of each detail that went into making STEHEDCO Heddles so smooth and practically frictionless, that threads of any kind of fibre pass through them without the costly breakage or chaffing that is customary with ordinary improperly designed, shaped and finished heddle eyes.



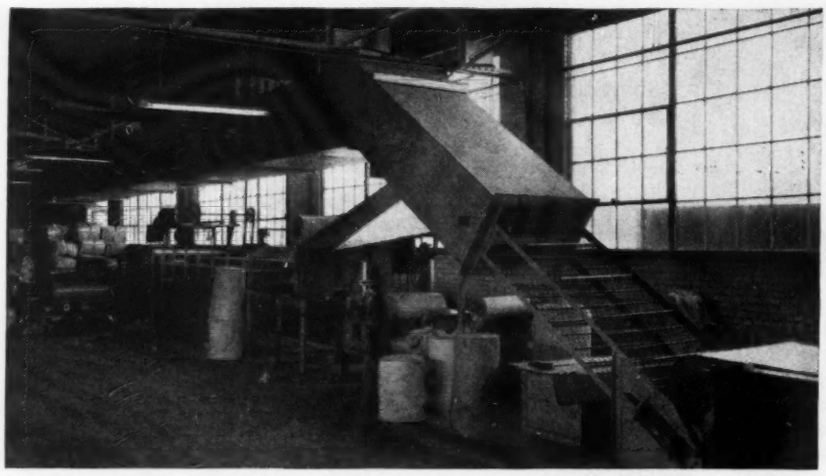
Write today for data on the "most economical" eye for the special warp thread you are using, sending us samples, or advising us of the warp fibre to be used. This service is free.

Steel Heddle Mfg. Co.

STEHEDCO HEDDLES · REEDS · FRAMES AND HARNESS ACCESSORIES

2100 W. Allegheny Avenue PHILADELPHIA, PA.

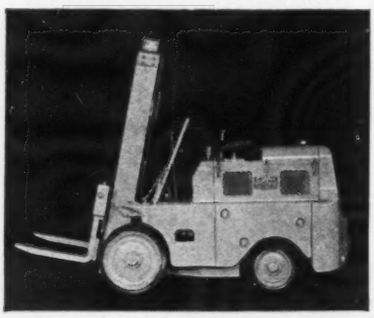
BRANCH OFFICES ALL OVER THE WORLD



● This photo shows the initial use of a specially engineered overhead oven in the textile industry. Being above head, it yields floor space for other machinery; this machine is said to require no maintenance. In this installation shown, the spray booth is located directly underneath, and the product is sprayed with latex to add strength and resiliency to it.. Manufactured by Schmieg Sheet Metal Works, Detroit, Mich.

Utilitruc

Clark Tructractor Division of Clark Equipment Company, Battle Creek, Mich., has made available a lifting, carrying, tiering fork truck that will handle loads as heavy as 7,000 pounds



and tier them in piles 15 feet high and higher. It can be used for quick, safe handling of machinery, for transporting beams from warpers to slashers, and slashers to looms. Gas-powered, it is capable of 24-hour continuous operation, meeting underwriters' requirements. It is made in several models, including straight lift, tilting and telescopic tiering.

◆

Phasing-Out Voltmeter

General Electric Company, Schenectady, N. Y., has designed a new portable 15-kv. high-resistance voltmeter for approximate indications of voltage higher than those now handled by a similar 5-kv. voltmeter made by the company. It is made particularly for phasing-out power distribution circuits, but is also suitable for bus sectionalization location of cable faults and similar applications. It is for use on 6900 and 12,000-volt circuits, has a scale marked 0-15 kv., and is constructed to withstand 30 kv. momentarily since this voltage may be experienced when phasing out 15-kv. circuits.

New Dyestuffs

E. I. Du Pont de Nemours & Company, Inc., dyestuff division, Wilmington, Del., has announced the following new dyestuffs: Polyform Scarlet 2GF, producing very yellow shades of scarlet which are similar to those of Pontamine Diazo Scarlet A both in tone and tinctorial value. Polyform Blue 2RF is recommended as a ground shade on viscose rayon which is subsequently to be discharged; it produces navy blue shades which are both redder and brighter in tone than those of Polyform Blue BRF; has outstanding fastness to washing. Ponsol Green 2BL Paste is a new anthraquinone type vat color with exceptional fastness to light. It yields an intermediate shade of green and is recommended for use either alone or in combination for the production of a diversified series of green and olives on uniform cloths, work clothing, awning fabrics and similar materials that are subjected to hard wear.

Diagen Bordeaux MR is a stabilized azoic printing color for cotton, or special interest for use on fabrics subjected to a reasonable amount of laundering. Diagen Red Violet DR produces reddish shades of violet which are similar in strength to those of Diagen Bordeaux MR, but are considerably bluer in shade.

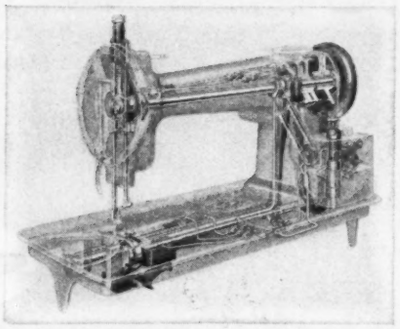
Extended Inner Ring Bearings

Stephens-Adamson Mfg. Co., Aurora, Ill., has announced Style A extended inner ring bearings in fractional inch dimension bores. The bearings are permanently sealed, pre-lubricated, and fitted with location snap ring to permit through bore in housing. They are said to be easily and securely locked on the shaft with either knurled cup point setscrews or one-half dog point setscrews with lock wire.

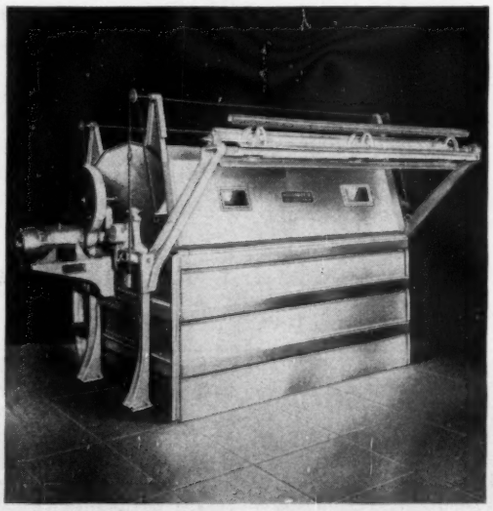
◆

New Lockstitch Machine

Willcox & Gibbs Sewing Machine Company, New York City, has de-

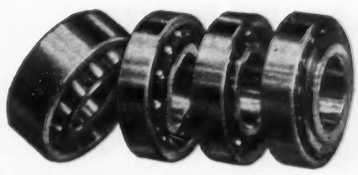


signed a new lockstitch sewing machine with constant lubrication of the intricate mechanisms. Centralized lubrication is provided by means of an automatically metered feed to each bearing, according to its individual needs. The lubricator reservoir, which includes a forced-feed pump device, incorporates a rotating gear mechanism which governs the actual flow of oil, under pressure, direct to the meter-units, and which apportions the correct amount of filtered oil to each individual bearing according to its size, speed and load. There is said to be no drip or drainage in the system. Automatic lubrication employing the forced-feed principle has been incorporated in the Feldlock and Superlock machines also.



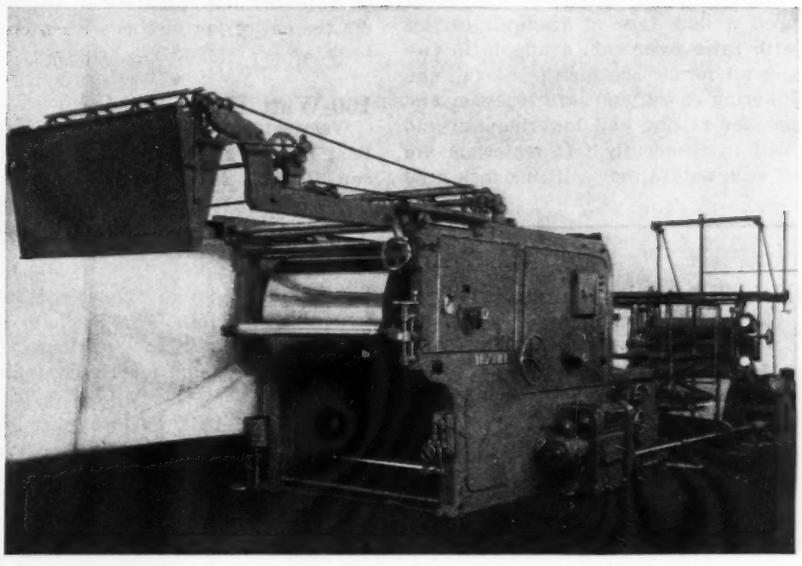
● A new reel dye kettle for wool and cotton fabrics in the piece. Is said to assure true colors from the start. Stainless steel construction results in a quicker rinse with no wasted time between lots. The tub of the kettle is self-supporting and seats on foundation below floor level. Drive is fully enclosed gear reduction motor; the machine is equipped with idler reel and unloading device with automatic stop motion. H. W. Butterworth & Sons Co., Philadelphia.

Sanforizers that are



100% SKF-EQUIPPED

are FREE FROM TROUBLE



Here's a Sanforizer that's equipped with an 84" diameter main cylinder, 48" diameter blanket cylinder, hydraulic blanket tension device, modern drive, and a newly designed motor-driven guider on the clip expander section. Complete automatic air lift control is used in connection with the ironing arrangement.

BUILT BY THE TEXTILE-FINISHING MACH'Y CO.

WHEN YOU think of the many advantages of SKF Bearings, you realize that The Textile-Finishing Machinery Company had a good reason for making every antifriction bearing on this Sanforizing Machine an SKF.

SKF Bearings never require adjustments. They need only occasional lubrication. They have everything a bearing needs to assure dependable low-cost machine performance.

No wonder, then, that so many leading textile machinery manufacturers are coming to SKF whenever they need bearings. It's a good habit for *you* to get into, too. 4659

SKF
BALL & ROLLER BEARINGS

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILA., PA.

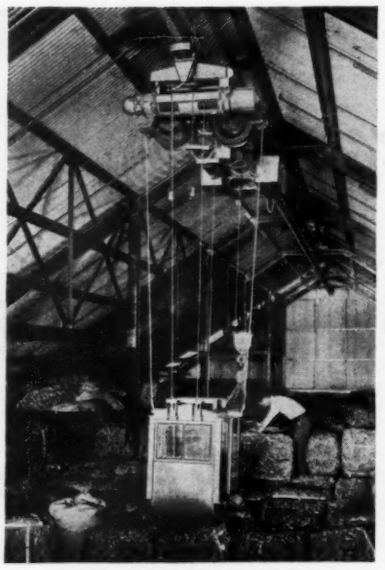
New Ball Bearing Pillow Blocks

The Fafnir Bearing Company, New Britain, Conn., has announced a new series of ball bearing pillow blocks and other transmission units incorporating the company's mechani-seal ball bearings. The new streamlined light series pillow blocks, flange cartridges and cylindrical cartridges offer two outstanding advantages, according to the company, considering the ease of application with the wide inner ring design with self-locking collar; they are locked to the shaft with a finger-twist and no machining, shaft shoulders, adapters or locknuts are required.

◆

New Tramrail Carrier with Raise-Lower Cab

The Cleveland Tramrail Division of The Cleveland Crane and Engineering Company, Wickliffe, Ohio, has developed a new type of tramrail carrier with raise-lower cab, available in two general forms, one for the raising and lowering of cab and load together, and one for raising and lowering cab and load independently. If materials are of such nature that a lifting fork need



be employed, one operator can also handle the entire job just as with a crane hook.

◆

100-Watt Fluorescent

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., has announced a new 100-watt Mazda fluorescent lamp, the largest yet made and possessing over twice the power of any Mazda F lamp heretofore manufactured for commercial and industrial purposes, according to the company. It is five feet long and 2⅛-inch in diameter. It has a rated initial output of 4400 lumens and a rated life of 2000 hours.

◆

Fabric Paints

The American Crayon Company, Sandusky, Ohio, has announced a series of new Prang textile colors, which are said to permit the decoration of textiles easily and economically with permanence. The colors are sun fast, boil proof and non-bleeding. A variety of techniques are possible with the new medium, including stencilling, block printing, silk screen work, free hand painting and crafts.

◆

Filling Bobbin Winder

The September 1940 issue of "The Whitin Review", published by Whitin Machine Works, Whitinsville, Mass., makes known the fact that the company will soon be in production on the Whitin-Schweiter automatic filling bobbin winder, which has been used in Europe during the last few years, but until recently has been almost unknown in this country. This winder winds yarn onto bobbins or pirns, the major purpose being to get additional yarn on the bobbin, and increasing the running time of the package in the loom. The description given in the publication goes extensively into cost reductions when using automatic filling winders.

◆

Floor Finish

E. I. Du Pont de Nemours & Co., Inc., finishes division, Wilmington, Del., makes known a new finish, "Super-Clear Varnish", which is designed for use on floors, interior trim and woodwork, and exterior work not completely exposed to the elements. It is said to possess good durability, is excellent in its resistance to both hot and cold water, and contains positive overnight dry. It is recommended for previously finished as well as new and unfinished wood surfaces.

◆

"Torch of Civilization"

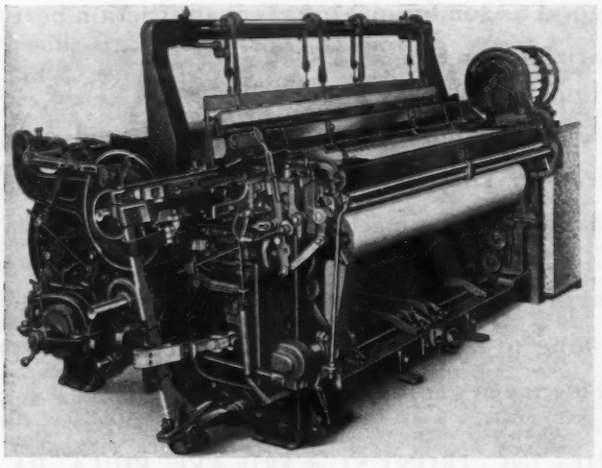
The fascinating story of man's conquest over darkness is dramatically told in a new book, "Torch of Civilization" by Matthew Luckiesch, director of General Electric's lighting research laboratory at Nela Park, Cleveland, Ohio. It contains 296 pages. Although it is so written as to hold the interest of the average high school student, the book contains much to capture the imagination of the average adult. Publisher, G. P. Putnam's Sons, New York City; price $3.00.

New XP Model Loom for Heavy Cottons

Draper Corporation, Hopedale, Mass., have announced the development of another member of the X-model family of looms. It is the XP model for weaving many heavy cotton fabrics up to and including light duck, and is designed to replace the former Modified D and P models.

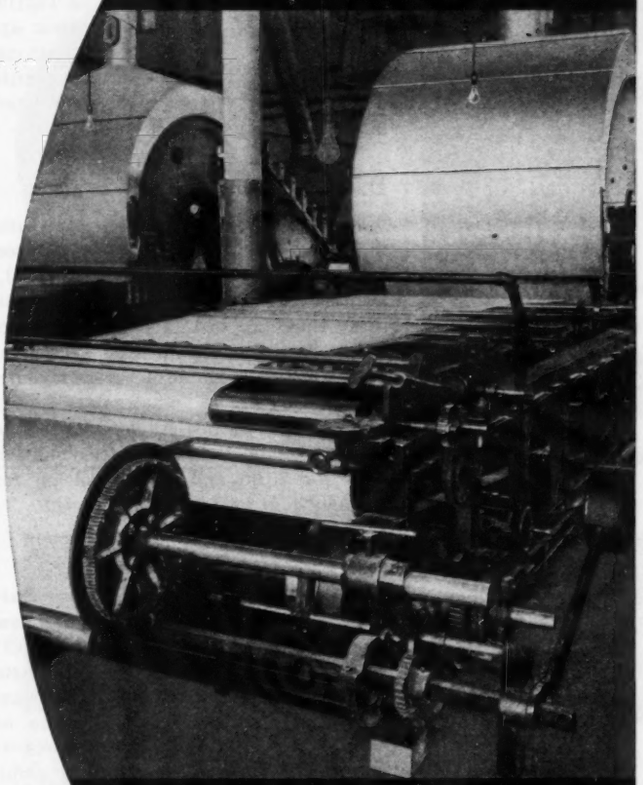
Like the other X-models, the XP is designed to operate at higher speeds; it has extra weight and strength for steadier running and improved cloth quality and reduced loom fixing, and other improvements. The fabric range is from narrow sheetings and drills to light duck, up to 72-inch. It will weave chafer cloth, awning cloth, bed spreads, certain rayon mixtures, upholstery fabrics and others within this range.

The loom is built to provide at least 20 per cent greater speed. The frame work along is 241 pounds heavier than in Modified D looms of the same width. Middle girts are braced directly to a heavy steel top girt. The breast beam is heavy, with a wide skirt, and each end is secured to the loomside by a three-bolt tie. The hopper stand is reinforced and secured by four bolts in a wide foot. The harness motion may be underneath cams with improved adjustable treadles, or dobby up to 20-harness 15/32-inch gauge capacity. Optional lay and shuttle box constructions provide for a wide range of shuttle sizes. The take-up is made stronger and to accommodate 21½ inches diameter roll of cloth. The let-off is the Roper; warp beams may be up to 26-inch diameter.



★CLEANLINESS
★UNIFORMITY
★SERVICE

Warp Sizing Starches



Serving the Textile Trade for over a quarter of a century . . .

★

MILL STARCHES
CORN PRODUCTS REFINING CO.

CORN PRODUCTS SALES CO.

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Greensboro, N. C.
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Atlanta, Ga.
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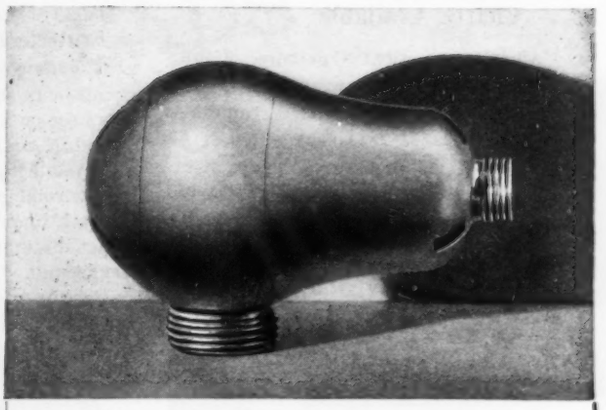
Boston, Mass.



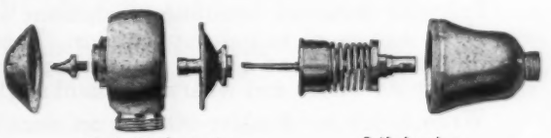
So . . . You Too
Are Thinking About Atomizer Humidifiers

If prone to kidney trouble—or early change of life—any atomizer is apt to be temperamental.

Consider what atomizers are bought for—months, yes years of reliable performance. Continuously reliable. No falling off in capacity. No premature senility.

Consider the quality of moisture—spray so fine it is absorbed by room air before anyone thinks about it as spray.

Consider simplicity. Consider day by day—and long range efficiency in the use of compressed air. Consider atomizers that demand no coddling, no fussing over, no adjusting—atomizers so reliable, they are just taken for granted.



Parks Turbomatic Atomizer Humidifier

Self-cleaning Non-adjustable

Parks-Cramer Company

Fitchburg, Mass. Boston, Mass. Charlotte, N. C.

Color Perception Charts Available

American Optical Company, Southbridge, Mass., have announced a book of new color blindness charts, compiled after months of research, which it is stated now make America independent of foreign sources for these charts. Compiled as a result of the foresight of U. S. military authorities, they will replace as a national standard in this country the Ishihara test printed in Japan and the Stilling system of Germany.

The 46 charts come with a booklet of instructions. They are composed of patterns (figures, letters, etc.) made up of variously shaded dots of the primary colors set on a differently colored background of similar dots in confusion colors. While the figures are easily seen by a normal person, the color-blind individual, unable to differentiate colors, cannot distinguish the figures from the background. The use of these tests in testing the vision of dyers, color mixers, printers, etc., is obvious.

THIS *New Booklet*
GIVES A CLEAR, CONCISE
UNDERSTANDING
OF OVERHEAD
MATERIALS HANDLING

In 5 minutes time this 12-page booklet conveys valuable information on materials handling that can result in great savings to your company, the amount depending upon conditions involved. Thousands of dollars are being saved yearly by many companies with Cleveland Tramrail.

Numerous pictures and drawings give you the elements of Tramrail materials handling equipment and illustrate typical plant layouts of actual applications. This booklet starts your train of thought and carries you through the steps necessary to determine where and what equipment might be used profitably.

Write today for Booklet 2004-A on your company letterhead.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
1175 Depot Street Wickliffe, Ohio

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT
Other products: CLEVELAND CRANES and STEELWELD MACHINERY

Quicklag Circuit Breaker by Westinghouse

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., has made available a new quicklag circuit breaker that is said for the first time to combine in a single unit, cooperative thermal and magnetic trip action. Descriptive literature of the new equipment is available upon request.

◆

1940-41 ASTM Standards

American Society for Testing Materials, 260 South Broad St., Philadelphia, Pa., has issued, under the sponsorship of Committee D-13, the 1940-41 issue of "A.S.T.M. Standards on Textile Materials". It gives in the latest approved form all of the 65 specifications, tests, and definitions covering textile materials, and includes other related information.

◆

Davison's Knit Goods Trade

The new Davison's Knit Goods Trade directory, published by the Davison Publishing Company, Ridgewood, N. J., is now available. It is said to contain three times an ordinary year's corrections. It covers all knitting yarn spinners, knit goods manufacturers, agents, New York offices, wholesalers, chain stores, and yarn dealers catering to the knitting trade. Deluxe office edition sells for $6.00 and handy edition for $5.00.

◆

Emulsifier

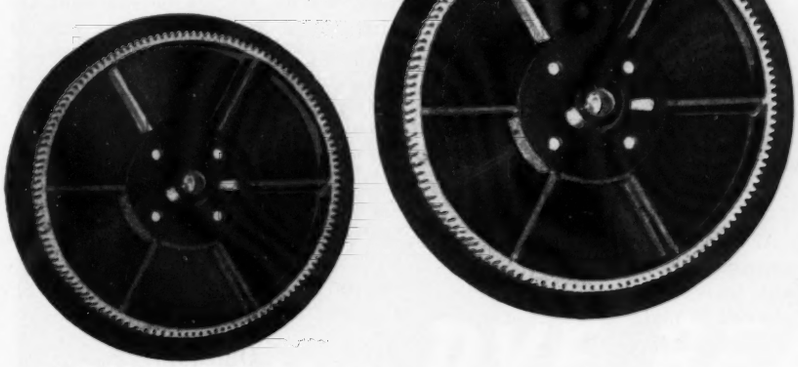
National Oil Products Company, Harrison, N. J., has made available a new type paraffine wax emulsifier, NOPCO 2251-B, a heavy, tan colored paste which when mixed with paraffine wax, makes the wax water dispersible or emulsifiable. According to reports, it is said to produce a stabilized emulsion spontaneously, without application of rapid agitation or shearing effect, similar to that obtained in a colloid mill. No special equipment is necessary in using the new product.

◆

Unbreakable Mercury Switches

Durakool, Inc., Elkhart, Ind., has placed on the market two new mercury switches, which carry substantially greater currents than the company's regular switches of the same dimensions. One is rated for 200 watts ac., lamp load at an operating speed not to exceed 20 times per minute. The other, though having the same physical dimensions as the former, has successfully withstood 750,000 operations on a 500 watt ac. lamp load at an operating speed of 5 times per minute 24 hours a day.

LARGER BEAM-HEADS
Mean Bigger Profits!



PROVED—
By Performance

YES, There Is More Profit To Be Made By Investing In

LARGER BEAM-HEADS

Investment of money to equip your mill to run larger beam heads and longer warps will give an annual return of 40 per cent or more.

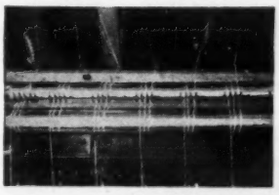
More yarn can be put on the beam with fewer run-outs on the loom. Fewer beams are handled, effecting a saving in the labor cost of slashing, tying-in, and placing beams in the loom.

Waste is reduced at both the slasher and loom. Loom efficiency is increased because looms run longer with less time out for changing warps.

These beam heads and beam barrels are superior in operation and economy.

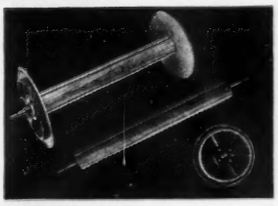
We also manufacture special textile machinery, cloth room machinery, and textile repair parts.

Other QUALITY Products



THE BACHMAN GUIDE . . . eliminates heavy top rollers. "Blow Outs" reduced about 90%. Permits increase in twister speed.

LOOM BEAMS AND BEAM BARRELS . . . West Point loom beams and beam barrels are superior in their operation and economy.



GEARS . . . Gears of all types —noted for their efficiency and durability.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA

PERSONAL NOTES
About Men You Know

FRANK H. COKER, who has been in charge of the Charlotte, N. C., sales office of the rayon division of E. I. Du Pont de Nemours & Co., Inc., has been promoted to manager of staple sales of that division, with headquarters at Wilmington, Del. He is succeeded at Charlotte by FRED F. HUBACH, formerly of the New York district sales office, who takes charge of sales in the South. GEORGE DEMME of the Philadelphia office succeeds Mr. Hubach at New York, and F. B. DRAPER of New York has been moved to Philadelphia, where he heads the office.

C. W. WILBANKS has resigned as superintendent of the Gayle Plant of Springs Cotton Mills, Chester, S. C.

JOHN G. BAUSHER has resigned as vice-president and sales manager of the United States Finishing Company and the Queen Dyeing Company. WILLIAM MYERS, JR., who has been associated with these companies for 18 years, has been appointed general manager, and ROYCE N. PHARR, who also has been with the company for a number of years, succeeds Mr. Bausher as sales manager. J. J. MOWRY continues as vice-president and general manager of the Hartsville Print & Dye Works, and WILLIAM H. BARNEWELL remains sales manager of that company.

E. MAX MUELLER of the Textile Machine Works, Reading, Pa., recently retired. Mr. Mueller had, for the past 21 years, been chief of the outside erecting force of the company. At a dinner in his honor he was presented with a gold watch by HENRY JANSSEN, president, and FERDINAND THUN, secretary-treasurer of Textile Machine Works.

J. F. ARMSTRONG, formerly in charge of carding at the Highland Park Manufacturing Company, Rock Hill, S. C., has accepted the same position with the Spencer Mills, Spindale, N. C.

HAROLD BARNEY has been appointed efficiency superintendent at the Mooresville (N.C.) Cotton Mills.

RALPH HUDSON, formerly superintendent of finishing at R. Wolfendon & Sons, Attleboro, Mass., has become associated with Airedale Worsted Mills, Woonsocket, R. I.

JAMES OATES has resigned as assistant superintendent of the Brookside Mills, Knoxville, Tenn., and is now general superintendent of Virginia Mills, Inc., Swepsonville, N. C.

PAUL RHODES, son of the late D. P. RHODES, has succeeded R. P. DICKS as president and treasurer of the Rhodes-Rhyne Manufacturing Company, Lincolnton, N. C.

L. A. FAILE has been made overseer of weaving at the Toxaway Plant of Gossett Mills, Anderson, S. C., and E. B. LOWERY is night overseer of weaving at this plant.

C. E. RICH, formerly located at the Elm City plant of Callaway Mills, has been transferred to an executive capacity at the Millstead (Ga.) plant of the company.

W. F. SMITH, who has been superintendent of the Mexia (Tex.) Textile Mills, has become associated with the Brazos Valley Cotton Mills, Waco, Tex., as overseer of winding and twisting in the twine mill.

CARL JOHNSON, formerly connected with Dunean Mills, Greenville, S. C., has succeeded George W. Ray as overseer of spinning at Victor-Monaghan Company, Greenville.

J. EMMETT WARREN, assistant to the executives of the Avondale Mills of Alabama, with headquarters at Sylacauga, Ala., has been elected assistant vice-president of the company.

J. C. PIRKLE, formerly at the Faytex Mills, Fayetteville, N. C., has become superintendent of the Pee Dee plant No. 2, Rockingham, N. C.

H. W. PITTMAN has been made agent of the Bibb Manufacturing Company's plants at Porterdale, Ga., succeeding J. O. PORTER, resigned. Mr. Pittman has recently been assistant to the president, W. D. ANDERSON, with headquarters in the general offices at Macon, Ga. Previously he had been general superintendent, factory manager and personnel director, and has been with The Bibb for 22 years. JOHN S. TURNER, superintendent of the Osprey plant at Porterdale, has been made general superintendent of all Porterdale mills, with B. D. CAIN, JR., formerly overseer of twisting, as assistant superintendent at the Osprey plant. Mr. Porter resigned his position on account of the ill health of his daughter. He had been with Bibb for 24 years. His father, the late JOHN A. PORTER, was for many years head of Bibb's manufacturing department.

P. E. FINDLAY, JR., has been transferred from the superintendency of the No. 1 Mill of Bibb Manufacturing Company, Macon, Ga., to be assistant superintendent of the company's plant at Columbus, Ga., and R. E. HENDERSON, formerly assistant superintendent at the Columbus plant, has succeeded Mr. Findlay at the No. 1 mill in Macon.

H. GRADY LYON, formerly connected with the Erwin Cotton Mills Company, Durham, N. C., has accepted a position with the Scottdale (Ga.) Mills as overseer of carding.

Obituary

HENRY C. FORREST, 57, president of Forrest, Inc., mercerizers and processors of cotton yarns and rayon, passed away at his home in Merchantville, N. J., November 6.

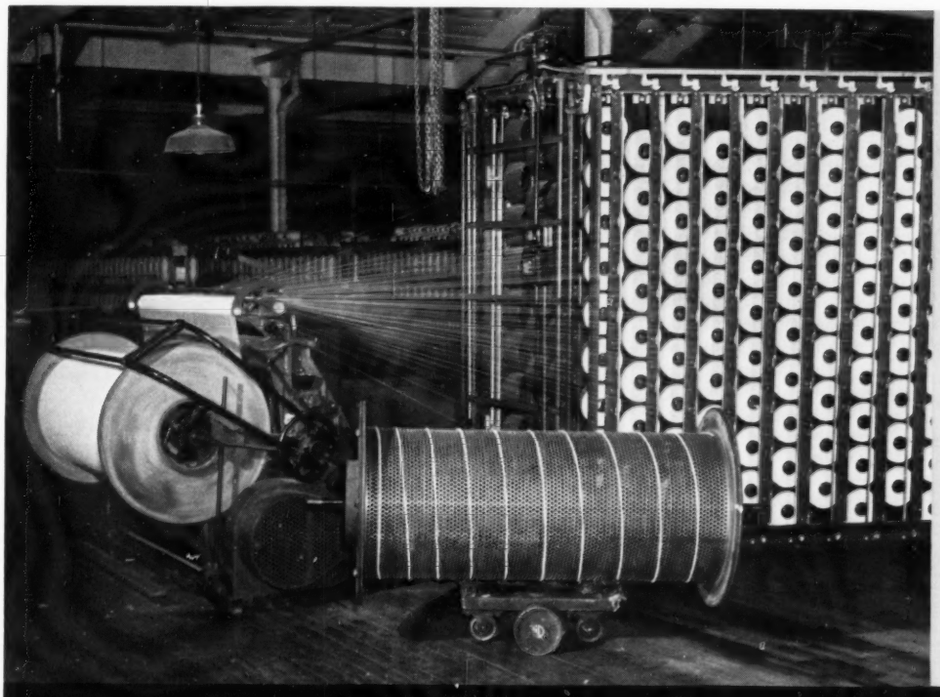
JOHN WESLEY COGGINS, 38, superintendent of the full-fashioned mill of Adams-Millis Corporation, located at High Point, N. C., passed away suddenly October 30 after an operation.

ZEBULON H. MANGUM, 63, retired general superintendent of Avondale Mills of Alabama, passed away in Auburndale, Fla., where he had made his home for the past five years. His son, BOYCE MANGUM, is at present associated with Sibley-Enterprise Co., Augusta, Ga.

WILLIAM C. BITTING, chairman of the board of the Rosedale Knitting Mills, passed away October 18 at the age of 70. He was president of the company from the time of its organization in 1914 until 1938, when he retired and was elected chairman of the board.

A. G. MCMILLAN, president and treasurer of the Talladega (Ala.) Cotton Factory, was fatally injured in an automobile accident October 2 on the Bankhead Highway.

CHURCHILL HUNGERFORD, SR., chairman of the board of Hungerford & Terry, Inc., Clayton, N. J., passed away at his home October 16 following a short illness.



For Best Results
USE THE
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Spooling and Warping
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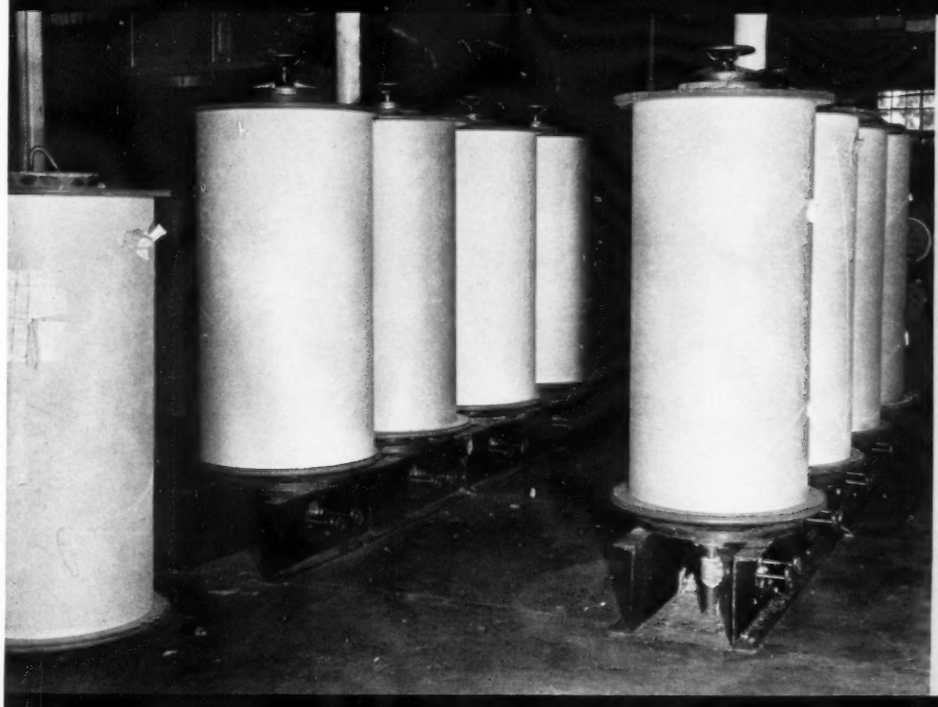
AUTOMATIC SPOOLER
SUPER-SPEED WARPER

SUCCESSFUL DYE BEAM WARPING...

EASILY ACCOMPLISHED ON BARBER-COLMAN SUPER-SPEED WARPERS



By using a special attachment on the standard Barber-Colman Super-Speed Warper, dye beams can be wound with accurately controlled UNIFORM DENSITY throughout the beam. This results in better, more uniform, more economical dyeing. The pictures show (above) a dye beam running and (below) a load of dyed beams on a drying rack.

BARBER-COLMAN COMPANY
ROCKFORD, ILLINOIS, U. S. A.
FRAMINGHAM, MASS., U. S. A. • GREENVILLE, S. C., U. S. A. • MANCHESTER, ENGLAND • MUNICH, GERMANY

SYMBOLS

One is of the American way of living . . . the other of the American way of business. *And* one cannot get along without the other.

The future of this country is dependent on business—and business depends upon the fundamentals of unhampered enterprise. Sonoco Products form a small but important cog in a huge and vital industry built upon these American principles.

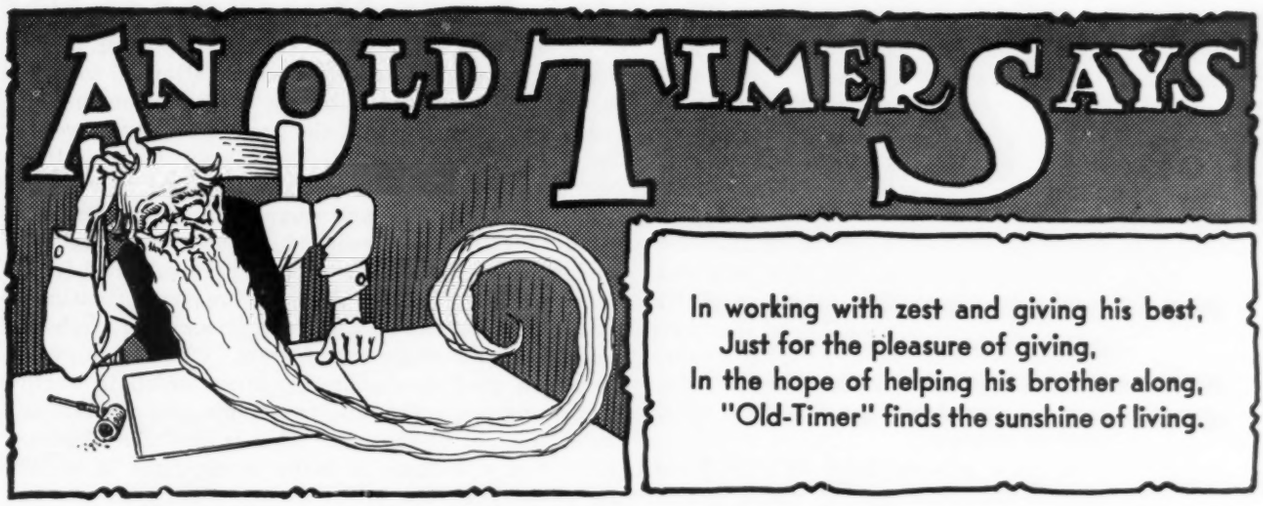
SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

sonoco
SERVES THE WORLD
PAPER CARRIERS

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

SYSTEM (*Concluded—Part 5*)

THIS IS the final installment of a discussion by Old-Timer with his friend, Jim, on the necessity of some sort of system in the purchasing and use of mill supplies and equipment, and accurate records of their life.

It will be helpful to read the four installments that have already appeared: page 67, August issue; page 95, September issue; page 129, October issue; and page 95, November issue—for the discussion is continuous.

(Since this article is written in conversational style, it should be borne in mind that those paragraphs in regular type represent OLD-TIMER'S part in the conversation, while those in italics represent JIM'S part.)

But, OLD-TIMER, *we never discussed in public (to our readers) that simple little system you told me you used when you took charge of a mill which was on a product you had never had any experience with—*

That, JIM, is so simple that there is very little to explain, but I do claim that a man who has charge of any kind of work, in any vocation, should have some kind of system concerning his personal duties and responsibilities. It is good insurance against forgetting something which you are responsible for, until it shows up by causing you some kind of trouble or expense to your company. And you know every mistake, caused by neglect, made by any foreman, overseer, superintendent or manager, matters not how trivial, has its effect on the boss, and as those little things pile up they can finally result in lessening the confidence the boss had in that man when he was first employed.

A man should have a pocket notebook in which to make notes of these items as they come to him in his line of work, and a larger record book to be kept at his desk in which to make permanent records taken from the notebook. Full information should be entered in the record kept at the desk, as to why and how the item came to your attention, the damage it did or defective product it caused and an estimate as to when you should look over certain machines or processes to be sure you get there before that same trouble can happen again.

So many times in our work we find some trouble which has developed gradually from several years' inattention, or neglect to inspect certain machines as long as everything was going along all right, but when the trouble did show up we then realized it could have been prevented if it had had our personal attention. This item then, matters not how seemingly unimportant, at the time, should go into your personal record so that as you look over this record from time to time you will be reminded to take a look and see if it is gradually developing again.

When I was an overseer we had one of the best oilers I had ever seen in a cotton mill; he could be absolutely depended upon to do what he was instructed to do. One of his duties was to fill the fire buckets every Friday, and he did this job so well that I never had a complaint from the insurance inspector; therefore, keeping fire buckets filled went entirely out of my mind. This good oiler had a long absence caused by a case of fever. Along came the insurance inspector, and, oh boy, did I catch Hail Columbia from my boss. Fire buckets became one of the items on my personal record and remained so as long as I was an overseer. I simply entered the two words "Fire Buckets" on a page in the book and then when I gave that item attention I would enter the date this way: 2/10/40—3/1/40—4/15/40, etc., which I could look at any time and see when fire buckets were last inspected by me. I also had "Fire Doors" and a few other items under this general head that the insurance inspectors were likely to find cause to report.

This report continued to grow with entries as from time to time I would find an item which I had not given my personal attention until it went uninspected too long.

Setting of harnesses was an item on looms. Our system of knowing when the lug strap had been lowered too much by the loom fixer made this inspection quite simple and took a minimum of time. We first determined the distance from top of heel bolt to bottom of lug strap which would give the loom sufficient

power, with the pick arm at its highest position. Then we painted a black stripe on the picker stick just above the lug strap. If the loom fixer used all the additional power by lowering the pick arm and then to get more power lowered the lug strap on the picker stick this was easily seen without stopping the loom when the lug strap was lowered below the black mark on the picker stick. All new picker sticks were of course painted with the black stripes before being installed in the loom. We took the position that if a loom was equipped with sufficient power when set up properly, and with some additional power available by the pick-arm, then if the loom fixer had to lower the lug straps, there was something radically wrong with the loom and it should have the attention of the head loom fixer, assistant overseer or overseer.

Loom temples, loose pickers, loose or worn race plates, were other items; loose ends on warps (when had I walked through each alley inspecting the backs of the warps?), steam charts from slashers and cooking kettles (when had I looked them over?). Just keep adding items to your record until you have built up a system of inspection which you can glance over any time and see the items you should give your attention tomorrow, or next month.

Overseers in spinning and carding will get the idea to apply to their departments; for example, one item in the spinning room was "Follow doffers", which meant I should take one doff period and go right along with the doffers—talk with them—see which doffers were being held back on account of a slow doffer or for some other cause, etc., etc.

When have you, Mr. Spinner, reading this, given your doffing one hour of your time? What I mean is, when have you stayed with your doffers one hour at a time, doing absolutely nothing else?

When have you, Mr. Carder, reading this, stayed one hour with your grinders Or, do you just pass around, like most overseers do.

And, Mr. Superintendent, when have you actually looked at the stop motions on the drawing? It would only take you ten minutes to lift up several ends back of several stands of drawing to see if the stop motion is working quickly enough to stop a broken end from running through far enough to make a thin place. You do not have to look at all the stop motions, but when you do look at a few at intervals and tell the overseer his drawing stop motions are in good shape or that some of the spoons do not work quickly enough, that ten minutes you spend on that drawing even every two months, if you have a large mill, will certainly be ten minutes well spent. And all you need to do to keep from forgetting to do it is enter on your record, "Drawing stop motions" 5/20/40, and you will know that you should give the drawing stop motions ten minutes of your valuable time along sometime in the month of June.

Did you ever hear of anything so simple? Well, OLD-TIMER is trying to tell you that you will surprise yourself at being a better superintendent or overseer than you have ever been before, and by the time you have built up a record that will cover all phases of your job it will, as sure as death and taxes, begin to show up in your production and cost.

For either an overseer or superintendent, a good entry is: "Look at seconds sent back to weave room to be shown to weavers." Another item, one which OLD-TIMER is guessing you have not attended to in—no, he will make that statement a little stronger—he knows (no guessing) that the great majority of weaving overseers and superintendents have not given this item their personal attention—"Cloth graders in cloth room". By yourself and your cloth room overseer spending an hour or even 30 minutes watching the graders cut the seconds that have been returned from weave room after being shown to weavers oftentimes graders can be shown ways to cut a cut of cloth in order to save a single cut of firsts. Cloth room overseers and graders should also know which is worth more in money to the mill, two single cuts of firsts or one double cut of seconds. This is only one illustration. You will think of many other items in which the graders should be instructed when you get in there yourself and see what is going on.

That's right, OLD-TIMER. *Do you remember the time our mill was making a style of goods for a special customer who would not take anything under 40 yards long and we were taking a tremendous loss by having to sell 40-yards-and-under pieces at much less than seconds price because the style of goods was not standard, and you suggested that we write this customer and ask what price he would pay for the cuts which had a small defect 30 or 40 yards from the end and our great surprise when the customer wrote back that he would make no reduction in price for a small weaving imperfection unless it was several yards long, but he did want long pieces and could we make them any longer? In other words, he had rather have a 200-yard piece with a small defect 30 or 40 yards from the end than to have a 160 or 170-yard piece.*

Yes, JIM, I remember, and that illustration points out the fact that many overseers and superintendents would find out many things about their jobs if they would only systematize their personal duties so they would be familiar with all details and do so without taking any more time than they are now devoting to their work.

Take a superintendent or overseer who has, say, 200 cards, and ask him when he has inspected the waste each one of those cards is making and he will give you a look that seems to say, "What in Heck do you think my job is, anyway; I haven't the time to go in the mill and look at 200 cards."

That is because such a superintendent or overseer has no system, Jim. To illustrate: All the overseer or superintendent need do is notify the man who takes out waste from under the cards to just pull the waste from each card out in the alley and leave it there, and, knowing what time of day this will be, you can then simply walk through each alley of cards and note instantly those cards that are taking out too much waste and those not taking out enough, and take the number of those cards. You certainly can walk past 200 cards in ten minutes, and it is surely worth ten minutes of any overseer's or superintendent's time to know exactly what 200 cards are doing with such an important item as card waste. Especially when you stop to think that a card is the most expensive machine in any man's

(*Continued on page* 108.)

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HOW OTHER MEN MANAGE

Care of Card Grinding Equipment

To assure maximum efficiency during the life of cotton card traverse grinders, the following suggestions are submitted . . . .

EDITOR COTTON:

In order to give good service, the traverse grinders that are used on cotton cards should be kept in condition. The suggestions that will be given in the following letter have been found to be good practice in the care of this equipment.

Grinders should be kept in substantial racks while not in use. When the traverse grinders are idle, the slot in the shells should be on the side away from the card. This will prevent oil leaking out and also prevent dust getting in. Care should be taken that they are not dropped, because the slightest springing of either end shaft will ruin their accuracy.

A light film of oil should be kept on both the shell (or barrel) and the traverse screw of the traverse grinder at all times. Regular comb box oil will serve for this purpose. The shell (or barrel) of the traverse grinder should be cleaned every day, and a new film of oil applied. To assure no excess of oil, apply with the palm of the hand while the grinder is idle. The traverse screw should be cleaned thoroughly once every two weeks. One end of a cloth can be inserted through the slot in the shell, around the traverse screw and out again. Working this back and forth along length of screw should clean it sufficiently.

Extreme care should be given that only the right traversing dog and dogholder are used in different make grinders.

Should the grinders be equipped with the new silent differential motion, these motions should not be opened until they have been in service at least a year, at which time the oil should be changed and the casing cleaned out. The oil in these new silent differential motions should be checked about every two months after the grinders have been idle for some time, which allows all the oil to drain into the bottom of the casing from the top gears. Any good grade of regular comb box oil should be added until the oil level is reached Too much oil will cause these motions to run hot and may develop pressure enough to force oil out through bearing surface.

If the grinders are equipped with bronze bushings, they should be occasionally cleaned and inspected for possible emery particles which have worked into internal grooves.

Grinders should be run at a speed of about 750 r.p.m. This, together with a card cylinder speed of approximately 165 r.p.m. and a doffer speed of approximately 270 r.p.m., has been found to be a good combination of card grinding speeds.

WE invite our readers to make use of this department for the discussion of any and all problems arising in the mill or finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. The editors do not hold themselves responsible for any statement of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

◆ ◆

Should traverse grinders become sprung or should their shells and traverse wheels become worn enough to cause inaccurate grinding, they should be either returned to the manufacturer for proper repairing or exchanged for new or completely reconditioned machines.

It is to the advantage of every succeeding mill process that the best card grinding possible be employed.

CONTRIBUTOR No. 7165

Cloth Room

Eliminating wasted effort and saving time in handling cloth in the cloth room . . . . .

EDITOR COTTON:

I have read with interest the articles on cloth room practice that have run in COTTON during 1940, and I would like to add something to the information that has already been given. There is much chance to eliminate wasted effort and time in the cloth room, and one of the first steps to be taken can be to lay the machinery out in such a manner that there will be no back-tracking of material.

In my opinion the following lay-out is the most satisfactory: The cloth from the weave room is brought on cloth trucks directly to the scales in the cloth room, where it is weighed. Cloth is then run from the trucks through the brusher and shearer into a roll of about 1500 yards, which roll is then placed on the burling tables and burled; next it goes to the inspection table where it is graded.

The next step is to carry the rolls containing cloth to be put up in bales to the folder, where it is folded and sorted into bales of the proper size, weighed, booked and put in the press. Cloth that is to be put up in rolls is run on a calender machine having a measuring device, which will enable the calender man to make the finished roll, in a great many instances, without the cloth going through the folder. The roll is then weighed, booked and sewed.

As can be seen, the material moves forward in an

orderly manner without any back-tracking.

It is important to study each operation and eliminate all extra operations that consume unnecessary time and effort. To eliminate all lifting, the storage tables, doffing tables and trucks should be the same height; this height should be such that the rolls can be rolled from the tables onto the machines. In our cloth room the cloth never touches the floor until it is ready to be shipped.

I believe the reader will find the following practices of use in eliminating re-running of material, especially in trying to prevent wrinkles and running straight rolls:

(1) The use of two parallel one-inch smooth pipes fastened to the bottom of the scray pan, which always hold the cloth straight.

(2) The use of adjustable slip collars on the winding rod so that the cloth in winding will always be centered and held in center.

(3) The use of a positive let-off and take-up on the burling and inspection tables instead of the cradle, so that the cloth will be kept under the same tension and give a hard wound, smooth roll that is free of wrinkles.

The elimination of wasted effort and time due to mistakes can be overcome by having written instructions for the cutting and packing of each type of goods posted so that the operators can have no excuse for making mistakes. In our plant we have the burlers and inspectors put their initials on the end of each piece of cloth, along with the style, so that we can watch for poor burling or grading. We have a duplicate packing slip, which we keep filed, for each package that leaves the plant, and on the duplicate are the names of the following employees: clerk, weigher, press man or re-roll man, and brander. If there should be any mistake made in weight, style, yards, or branding, we can very easily determine who is at fault. This ability to check faulty work will in itself eliminate the worst of the mistakes.

CONTRIBUTOR No. 7166

Spooler Knots in Belt Duck

EDITOR COTTON:

On page 134 of your October 1940 issue "CONTRIBUTOR No. 7154" reports that he has difficulty with spooler knots showing up on the surface in his belt duck.

We assume that the spooler knots mentioned are single yarn knots, and based on that assumption, feel that the fisherman's knot is the best; if a hand knotter is used we prefer a weaver's knot.

If the question is concerning plied yarn knots, our recommendation is that the twister yarn be run off in sets, and that the warp be made free from knots other than knots required where an end breaks down, either in the beaming operation or in weaving, in which case the operator would tie a weaver's knot.

Your questioner asks whether calendering or brushing has a tendency to increase these knots on the surface, and in our opinion these operations do not have any effect on the knots in the cloth.

CONTRIBUTOR No. 7157

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EDITOR COTTON:

This is written to discuss the question of "CONTRIBUTOR No. 7154" with reference to spooler knots in belt duck.

We have likewise encountered this matter of knots in coarse and single yarn and knots in fine and coarse ply yarn. A change to a knotter that ties a good weaver's knot helped us to a great extent. This man mentions these knots in plies as heavy as eight, and I am a little bit surprised at this and am wondering if he is not putting too much twist in the single and ply yarn, thereby squeezing the knots to the surface, making it prominent, so to speak and readily nipped by the calender roll.

Knots are a problem in coarse single yarn and in ply work, in the manufacture of fabric. All yarns, single and light ply, should be tied with a weaver's knot or by hand. Some mills use a splicing arrangement on heavy plies of coarse yarns; this staggers the single knots, and has been found to be quite satisfactory even on hose yarn.

Moreover, weaver's knots, tied either by hand or knotter, should be drawn tightly in order to reduce the size and to allay the annoyance of slip-knots when yarns are subjected to tension in the warp at the loom. A knot tied under dry or slight humid conditions will be larger and more apt to slip than one tied in yarns that have been sufficiently conditioned.

The process of weaving will tend to raise knots, that is, the beating up of the filling at the loom seems to cause the knot to be forced to the surface of the fabric. I would suggest trying the raising of the whiproll and breast beam or other combinations that might affect the particular situation.

The calender of either metal edges or abrasive covering can and will expose spooler knots if they are set too high to operate on the duck passing over them. True, specks on the cloth must be removed, yet damage to the face of the cloth will also result if the cloth is drawn over the calender too tightly.

Such problems are common in the duck industry, and they have been overcome in great part through careful study such as the inquirer has no doubt begun. If the foregoing does not overcome the trouble, it is hoped that it will suggest even more practical remedies.

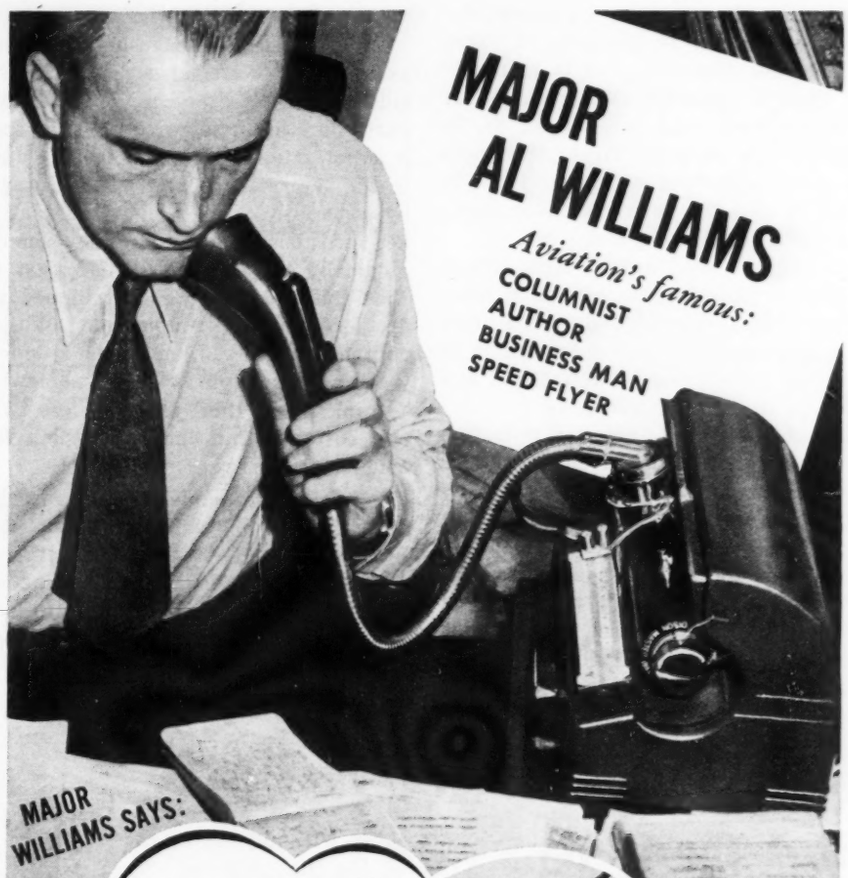
CONTRIBUTOR No. 7158

◆

EDITOR COTTON:

"CONTRIBUTOR No. 7154" asks certain questions regarding spooler knots which are showing up on the face of his belt duck. This is a problem common to duck mills, though we feel that very little is being done about it as spooler knots seem to be one of the necessary evils in connection with making yarns.

Since it is necessary, with present methods of cotton spinning, to tie knots in the single yarn in the



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spooler room in winding the yarn on a package for use at the next process, which in the case of yarns for duck is twisting, this operation merits more attention, we think, than it often receives. Yarns for making duck, as this writer says, are coarse, 6s, 7s and 8s, and the coarser the yarn the larger the knots and the more they show up in the finished goods. The more plies required to make a yarn the more knots will be found in a given length of yarn.

With these facts in mind, we think of three things which might be done to improve the condition mentioned by this correspondent, namely, reduce the number of knots to a minimum; see that the knotter is in good condition and that the knot is properly tied; and assure correct handling in the cloth room.

Several things might be done to effect a reduction in the number of spooler knots. Improvements might be made in the card room and the spinning room resulting in fewer ends down and fewer gouts and slugs. The installation of large package spinning means a greater length of yarn on the spinning bobbin, which should mean fewer knots. Sometimes the lay gear may be changed, slowing the traverse, thus getting more yards to each doff. Doffers should be required to run the frames until the bobbins are as full as is practical to run them. All of this means a greater length of yarn between knots.

The ordinary chicken-head knot is open to question as to its value in yarns for duck, as it is all on "one side" of the yarn and tends to stand out from the ply yarn, but the hand weaver's knotter is slower so that it is not extensively used. Some improvement is noted in the fisherman's knot and the weaver's knot as tied by automatic spoolers or winders. Knotters must be kept in good condition. They should be checked periodically to see that a good knot is being tied and that the ends are being trimmed properly. Kinked spooler knots are troublesome. While the spooler hand can prevent kinked knots, one spinner says that single yarns with a high twist are somewhat wiry and tend to kink worse than yarns of less twist. He also says that cotton with a "harsh" staple will bring about this condition.

Your correspondent is correct in his assumption that the brusher will bring spooler knots to the face of the duck. He might try burling *after* brushing, in this way he will be able to cut out many spooler knots which do not show up previous to brushing. We trust these few suggestions may be of some help to this reader of COTTON.

CONTRIBUTOR NO. 4022

Cause and Remedy for Broken Quills

EDITOR COTTON:

When looms are permitted to continue the excessive breaking of quills it is nothing short of negligence and carelessness on the part of those responsible for the upkeep of the looms. Of course, there are always some few quills getting broken that we can do nothing about, but we should at all times strive to keep the breakage down to the minimum.

Some methods of preventing quills from getting broken will be given, and in the remarks that follow, let us assume that the looms have been in use for a number of years.

The hopper stands should be put on at all times by the use of a full set of battery gauges to insure correct alignment with the loom reed. The moving parts of the battery should be in good working condition so as not to allow any backward movement of the battery disk because that might interrupt a correct transfer. There is available an eccentric stud on which the battery hold-back pawl works and I have found this to be much help in eliminating the rocking back and forth of a battery disc that has some worn parts, but which parts are not worn enough for replacement.

It is important to see that the shuttle is not going too deep into the shuttle box on the battery side of the loom. The ring nearest the top or small end of the incoming quill should contact the out-going quill between the first and second rings nearest the top of the quill. This setting will allow the bobbin that is being transferred to the shuttle to be carried straight down without jerking the shuttle backward at the time of the change.

If the shuttle is going very deep into the shuttle box, the butt of the full quill will strike far back on the shuttle spring guard. Sometimes the transfer hammer will make a dent on the extreme end of the full quill, injuring the metal lining and rendering the quill unfit for further use in the spinning room.

In most cases where looms are breaking empty quills, we find that there is a place worn hollow in the loom lay at the top of the apron on the picker stick guide; it is usually worn concave.

A condition like this has a tendency to catch the butt end of the quill in the hollowed-out place in the loom lay. It will be noticed that the quill has left the shuttle at this time and is falling down toward the quill can. When the butt end of the quill catches in the hollow place in the lay it throws the small end of the quill upward, catching between the shuttle and the end of the groove in the lay end plate, breaking the quill on the forward stroke of the picker stick.

At other times the butt of the quill may lodge in the hollowed place in the lay and let the top of the quill fall first, and while the quill is stopped temporarily, the motion of the loom is likely to throw the quill into the path of the picker stick, causing the quill to be broken. Sometimes the quill is not broken but is dropped between the picker stick guide and the lay and is worn out before it is discovered.

To Remedy Broken Quills

I have mentioned the faults in order to explain the remedy. Of course, it would be too expensive to replace all the lays that have hollow places worn in them, so we take a piece of old fiber roving can and cut out a piece to fit into the hollow place in the lay and tack

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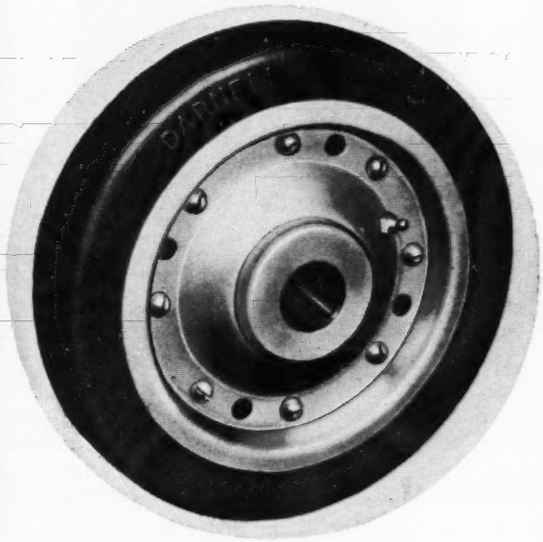

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or nail it in place. When doing this it is wise to countersink the tack heads. Also, have the picker stick guide apron built up straight across at the top and see that it fits snugly so there will be nothing to obstruct the quill.

The leather bumper must not be worn or it will give trouble.

CONTRIBUTOR No. 7124

Weavers or Battery Hands (to Fill Batteries)

THE following inquiry was received by the editors of COTTON: "We have a weave room with 368 looms, which is on coarse goods with colored stripes and borders, and we are continually changing patterns. We have 24 looms to a weaver, with the weaver filling his own batteries and taking off the cloth on the set of looms. Our filling numbers are 6½s and 9½s. The number of looms one weaver may have on 6½s filling may be 12 one day with 12 looms on 9½s, whereas the next weaver may have 8 looms on 6½s filling and 16 looms on 9½s, and the sets may vary from day to day.

"One week we may have over half of our looms in the room on 6½s filling and the balance on 9½s. The next week it may be that the room is more unbalanced and we never can get either one of the filling numbers all together.

"I have been trying to work out some system to see if it would pay us to have battery fillers and give weavers more looms. As yet I have not found a solution, Can the readers of COTTON give me any suggestion?"

This inquiry was passed along to several men; two of the answers to this question appeared on page 114 of the May issue of COTTON, and two more answers are given herewith.

Mill No. 3's Answer: This man wants to know if it will pay him to put on battery hands and give his weavers more looms. This all depends on whether or not he pays above the minimum wage for weaving. I believe that if he will check the work on his weaving, using 6½s and 9½s filling, he will find that 50 per cent or more of the job is filling batteries. If he is paying battery hands $13.00 per week for 40 hours work, and has what I would consider the proper difference of pay between battery hands and weavers, then his weavers must be making from $18.00 to $20.00 for 40 hours work. If this is the case, and the batteries are 50 per cent of the job, then it will not require much calculation to show that he will save money by putting on battery hands.

He states that he cannot group the two separate fillings to themselves as he is continually changing from one to the other. Probably he cannot completely segregate the two numbers, but he can help it a whole lot. He says he has 368 looms. I would advise him to decide what the minimum number of looms on one number of filling is going to be, and bunch that number of filling on one end or side of his room; then put the minimum on the other number of filling on the other side of the room.

Leave the looms subject to change from one filling to the other in the center of the room so that he will not have the two numbers of filling scattered all over the room. We use what we call a production forecast

in our mill which works mighty good. When we get an order, the first thing we do is to check the delivery wanted, figure out how many looms will be required to meet the delivery, and put them on. These looms stay on that fabric until the order is completed.

At present we have about 20 different styles running on as many different fillings. On some we have four looms, and on some we have 400 looms. However, we group maybe three or four styles together when they use the same filling in order to keep the fillings straight. Sometimes we have only four looms on a certain number of filling, but these looms are all kept together even though we have to move some warps to get them together, and we have found that it pays to do so.

Mill No. 4's Answer: The inquirer seems to have a complicated problem to solve in trying to run a 368 loom weave room efficiently with a large number of patterns and fillings. This problem has presented itself to me a number of times in the last few years and there are a number of ways in which it may be solved successfully depending upon the amount of effort the person in charge of the operation puts into the analysis of the situation involved. The facts presented by the questioner are meager compared with the information that he asks for.

My suggestion would be for him to make a detailed study of his problem in respect to delivery of filling from the spinning room, space bins and quills available for storage, etc. Then take his production records for a period of three months or more and analyze it in detail to see what his problem really is.

Since I do not know all the variables I cannot give him a plan but from the face of his inquiry I would

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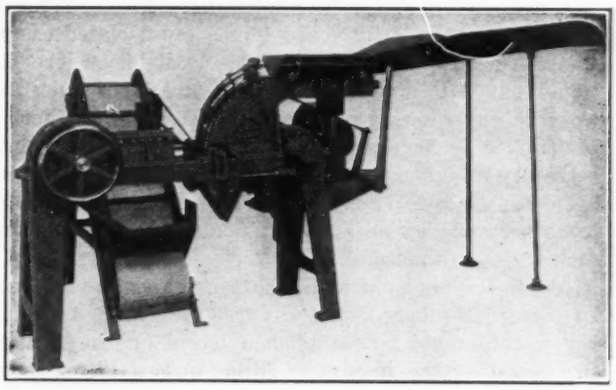

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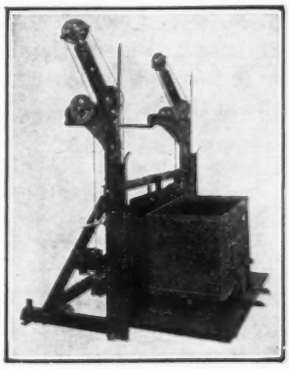
Yesterday's methods fall short of today's requirements—successful, economical operation depends largely on over-all efficiency.

Obsolete or inadequately equipped bobbin cleaning departments are not only inefficient, but harbor many small items of expense that are completely eliminated when the New, Improved Type K Bobbin Strippers are installed. They clean twice as many bobbins as previous models — are equipped with safety devices to prevent damage to bobbin barrels or the finish, and give you direct control over filling waste.



★

The Automatic Bobbin Box Hoist at the left, when used with the conveyor elevator, completely eliminates all manual handling except the actual feeding of the machines—thus providing mills with a complete bobbin-cleaning system, unequalled for over-all efficiency and economy.

★

The **Terrell Machine Co.,** *Inc.*

CHARLOTTE, N. C.

Luther Pilling, Danielson, Conn. — N. E. & Canada
E. W. S. Jasper, Elizabeth, N. J. — Penn. & N. J.
Geo. Thomas & Co., Ltd. — Manchester, England

say that his analysis has been incomplete. I have never seen the economy except in a few isolated cases where full assignments are not available where it would pay a mill to work highly paid labor such as weavers on a low pay job such as a battery filler's. My advice is for him to find the loom assignment necessary to give a weaver a full job on each style to be run then to figure an average loom assignment for a weaver depending on the number of looms on each style in his stand.

As to the payment of the battery hands, he can set up piece rates based on the yards woven in a stand and a rate must be established based on the filling size or rather the amount of filling on a quill for each number and width of cloth involved. Careful records must be kept of all assignments shift by shift and the pay can be figured from this.

It would be profitable to have an experienced engineer on time and motion study come to the mill for three to six months to study all the variables and set up rates and a rate system suited to the requirements of the mill. You will have to pay him well but the mill will be put on a sound system of rates that can put it on the profit side of the ledger for years.

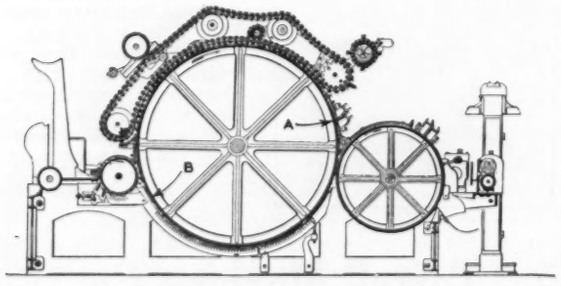
Clean Card Web

EDITOR COTTON:

Most all carders and grinders know that they should not oil the grinding wheels while they are in operation. The grinding wheels should be oiled before they are placed on the card, and the oil worked into the parts oiled so that the wheels will not throw drops of oil on the cylinder and in turn on the underside of the cylinder screen.

Every practical man knows that no matter how careful we are about oiling the grinding wheels, some of the oil does escape the wheel, double-way screw and steel tube. This is due, of course, to their high surface velocity.

Therefore, in all cards a certain amount of oil is carried onto the cylinder under-screen, which afterwards collects dirt and fly to such an extent that the wire surface of the cylinder is touched, which shows in the form of blotches and holes in the web.



Many carders and grinders will tell you that this trouble is hard to locate. So I want to give the textile school student and learner a practical pointer that may help him later, a pointer that is not given in textile schools.

To cure the foregoing trouble, let the card run without stock until the flats have made one round trip. Then take a few layers of flat strips, their weight not to exceed 150 grains. Lay the strips across the cylinder at point *"A"* in the accompanying illustration. Next, turn the cylinder in the direction of the arrow until *"A"* reaches point *"B"*. Then turn the cylinder back and remove the flat strippings.

To make sure that the strips are not carried past point *"B"*, make a chalk mark on the cylinder.

I know of no better way to obtain a nice clean perfect card web. WASH (R. I.)

Causes of Reed Stripes

1. Uneven, too much or not enough tension on the warp.
2. The whip roll is too high or low.
3. The shed is high, low or uneven.
4. Shed closes late.
5. Lay is loose in its bearing and rises on one side.
6. Course reed.
7. Reed dents are too heavy and thick.
8. Not enough tension on the filling.
9. Reed wire is too fine and the dents play back and forth.
10. Bent dents.
11. Warp is drawn in the reed improperly.

FORD

An Old-Timer Says—

(*Continued from page* 98.)

mill where the cost of raw material is considered. Also, many overseers and superintendents do not stop to realize that the card that is not taking out enough waste is more expensive, when making some styles of goods, than the card that is taking out too much waste. All cards may be inspected for flat strips just as quickly by notifying the man who takes up flat strips to leave off the wooden roll, next time he takes up flat strips, and let the strips fall down on the doffer casing.

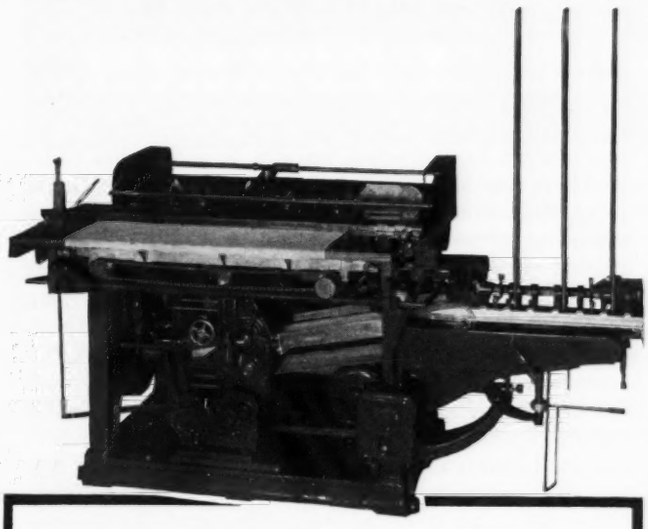
Heck, OLD-TIMER, *you can do that in less time because you can see so many cards at once; you can almost walk across the card alleys and by looking right and left see all the cards unless the alleys are unusually long.*

Correct, JIM, a simple little system will surely enable the overseer or superintendent who has it, to do twice as much work in half the time it takes the overseer or superintendent who goes through the mill looking for nothing in particular with the result that nothing shows up until it has been neglected so long it has to give trouble before he sees it.

Then about all those overseers and superintendents see is trouble, I suppose, isn't it, OLD-TIMER?

You said it, JIM. They never will know how much less worry and how much less money they could run a job with and at the same time make a reputation for themselves as textile manufacturers.

System, JIM, System, is the secret of any man's success, even if he has charge of nothing more important than a shoe-shining stand.



FOLDING COSTS CUT 1.6c PER DOZEN

A MILL with an operator folding 150 dozen towels per day installed a Foldrite Folder. Now the same operator folds 750 dozen per day at a saving of 1.6c per dozen! You can do the same with a Foldrite Folder.

To obtain a neat, attractive package of dish towels, huck towels, face towels, diapers, pillow cases, etc., at a minimum cost, use the Foldrite Folder. This machine will make almost any type of fold you require. The 36″ machine will handle articles ranging from 18″ to 36″ in length and from 12″ to 32″ in width. It folds to a finished width of 6″ to 8″.

Send us several samples of your products and we'll return them to you folded by a Foldrite. You can see for yourself how the Foldrite will help make your package stand out head and shoulders above hand folded products. Write to

ROCHESTER ENGINEERING & CENTRIFUGAL DIVISION

American Laundry Machinery Company

106 NORWOOD STATION CINCINNATI, OHIO

Perfect Set Up for PROFITS

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Build Your Business

WITH OUR SURE

Specialized Service

North Service is two-fold in laying a foundation which makes you greater profits.

No. 1, The North Organization takes advantage of all breaks in the raw material market and makes purchases at tremendous savings. These savings—actual money—are passed on to you and are constant regardless of world conditions.

No. 2, You are saved the expense of solving sizing problems. The North Staff conducts and concludes all tests at our expense. We use the very latest scientific laboratory equipment. Our staff consists of men who are not only sizing and finishing chemists, but who are seasoned millmen. Call for a North service man to visit your plant. There's no obligation.

It's a perfect set-up for assisting you in making money.

Your orders of North products will be promptly filled and shipped. Check them, now, WEAVE-WELL Slashing Compounds (also made in dry size); FINISH RITE Finishing Products; ROTO-CONDITIONER, the improved conditioning machine for setting twist and conditioning filling yarns; NORTHOL PC, a superior conditioning fluid for all filling yarn conditioning systems; GREASE-RITE Shuttle Tallow, etc.

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● You will find the caustic soda made by Pennsylvania Salt Manufacturing Company so well refined that it meets your most exacting requirements for mercerizing or other textile processes.

A double refining process makes this caustic soda low in salt content, low in carbonates, and extremely low in iron. In addition, Pennsylvania Salt Manufacturing Company maintains the most rigid quality-control to safeguard the uniformity of the product, using, among other methods, that of spectrographic analysis — one of the most sensitive and precise known to science.

This caustic soda is supplied in aqueous solution in 8000-gallon tank cars, as well as in solid, flake, or ground form in drums. Our technical staff will gladly help with all problems of handling.

Pennsylvania Salt Manufacturing Company, Widener Building, Philadelphia, Pa. —New York • Chicago • St. Louis • Pittsburgh • Tacoma • Wyandotte.

Other Pennsylvania Salt Chemical Products for the Textile Industry

Hydrogen Peroxide	Sodium Hypochlorite
Soda Ash	Carbon Bisulphide
Sulphuric Acid	Ammonium Persulphate
Hydrochloric Acid	Anhydrous and Aqua Ammonia

PENNSYLVANIA SALT
MANUFACTURING COMPANY
Chemicals

After All: WE Must Pay It

(*Continued from page* 58.)

conservative percentage of the estimated value of the securities. The situation is reversed when the banks are full of Federal bonds held at par, and if those bonds begin to depreciate rapidly, it is just too bad.

There has been much talk of the need for national unity, and as far as national defense is concerned there will probably be little lack of unity, but there are many other matters which still are serious national problems and economic issues. While the people in the long run must pay the taxes, Industry must collect them, and while theoretically each individual in the United States owes about $500 on the national debt, the debt is a charge against the taxable property and income of commerce and industry as well as the general public, and while the public in the long run will have to pay this debt, organized industry is faced with the problem of sweating it out of the public, since the Government makes Industry its deputy tax collector.

EVERY THOUGHTFUL PERSON connected with the textile industry or any other industry should spend some prayerful minutes every day thinking about the national debt and its implications for a better understanding of the terrible danger of increasing debt, and in trying to make other people understand these dangers. There are some national expenditures that we can not avoid, but many that we can. While there is great national unity on the question of defense, this unity is entirely lacking on other vital topics.

At what point the national debt will topple and crush us, no one person may say, but relatively few persons will deny that there *is* a point at which it *must* topple, and a great many persons believe that we are now close to that point.

This nation in a serious depression may be in desperately straightened circumstances, but it could at least retain its constitutional form of government. This nation bankrupt would almost certainly lose its constitutional form of government, because in national bankruptcy there will be problems that can not be met by parliamentary action under a constitution.

Back in 1928, here and there, a voice was raised in warning about the dangers of inflation and the misery of getting over it, but there were few listeners and most of those were scoffers. The same economic forces are at work today, and more inflation and all that it implies is right around the corner.

Perhaps a strong, persistent, and concerted effort by the business leaders of the United States can somewhat re-orient national policy sufficiently to check the growth of the national debt to avoid complete disaster, but it will certainly need to be a desperate and continued effort. The swing has been going in the other direction, and an economic swing of this kind is a sort of economic fever with which the doctors can do nothing, except fight to prevent the complications that may either cause the patient's death or lifelong invalidism. The fever itself has to run its course, but if the dangerous complications can be avoided and the patient can receive the proper care during the convalescent period, he will get well. Without plenty of such care, Heaven help us! It is up to the American business man to supply it; nobody else will.

HELPFUL BOOKLETS FREE

Here is presented an important service used every month by hundreds of COTTON readers. The listings explain themselves. The Manuals, Reference Books and Catalogs, containing information of unusual value in mill construction and operation, will be sent you without obligation. Read through the list carefully. Then simply fill in on the coupon the number of those which interest you, and mail it to COTTON.

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Advertisers in this Issue Offer You . . . . . .

30. Lubrication of Textile Machinery—32 pages illustrated. Data covering the economical lubrication of all textile machines. New York & New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

62. Rubber Products for the Textile Industry—A 40 page booklet giving a wealth of information on the proper selection, installation and operation of rubber belts, together with charts, showing horsepower rating, pulley sizes, V-belt sizes, also information on all types of hose and rubber covered rolls used in the textile industry. Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J.

64. SKF in the Cotton Mills—24 page bulletin describing bearing installations for practically every machine in the textile industry including roller bearing spindle and tension pulley. SKF Industries, Inc., Philadelphia, Pa.

77. Bulletin S 200—Illustrating and describing the new Reeves Variable Speed Drive for spinning and twister frames, explaining its many distinct advantages and giving charted results of exacting tests. Reeves Pulley Company, Columbus, Indiana.

88. Dayton Cog Belt Catalog—A 32 page booklet full of vital information on power drives, plainly and simply assembled and arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired. The Dayton Rubber Mfg. Co., Dept. C-11, Dayton, Ohio.

110. 3-In-One Oil for Industrial Uses—showing the many industrial uses and advantages of this oil. A. S. Boyle Co., Jersey City, N. J.

116. Arcy—Telling in an interesting way the story of Arcy, which completely liquefies ordinary thick boiling pearl starch and its many advantages. Drake Corporation, Norfolk, Va.

117. Anti-Friction Bearings as Applied to Spinning, Drawing and Twisting Frames—This bulletin shows with detailed drawings how a simplified design of roller bearing applications is made to replace the plain babbitt bearings and lists the advantages that are gained. It deals primarily with better continuous production and in consequence freedom from equipment care and repairs. Hyatt Bearings Div., General Motors Corp., Harrison, N. J.

120. Goodyear Mechanical Rubber Goods Catalog—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill. Goodyear Tire & Rubber Co., Akron, Ohio.

139. Textile Detergents—Theory of the use of alkalis and control of pH—This 32 page booklet explains in simplified manner for the benefit of the layman the chemical processes that take place in using textile detergent in the finishing of textile goods. It contains many useful tables and data. Detergent Products Corp., Peachtree Bldg., Atlanta, Ga.

141. V-Belt Engineering Data Book—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive design of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. Manhattan Rubber Manufacturing Div. of Raybestos-Manhattan, Inc., Passaic, N. J.

154. Johnson Bronze Bulletin No. 340—showing over 300 sizes Johnson general purpose bronze bushings. Johnson Bronze Co., New Castle, Pa.

155. Link-Belt Catalog 1574 on the P. I. V. Gear—giving details of this positive variable speed control. Link-Belt Co., 307 N. Michigan Ave., Chicago.

156. Link-Belt Engineering Data Book No. 125—showing features and giving engineering data on Link-Belt silent chain drive. Link-Belt Co., 307 N. Michigan Ave., Chicago, Ill.

157. Grading Rules and Complete Specifications for Laying and Finishing Maple Floors—Maple Flooring Manufacturers' Association, 1794 McCormick Bldg., Chicago, Ill.

163. Roto-Koner—Bulletin describing the new No. 44 Universal Winder, known as the Roto-Koner for winding knitting yarns, which has many new and distinctive features. Universal Winding Company, P. O. Box 1605, Providence, R. I.

164. Johnson Rotary Pressure Joints—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instructions, types, sizes, dimensions and prices. The Johnson Corp., Three Rivers, Mich.

168. The Tube-Tex for Tubular Knit Goods—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste. H. W. Butterworth & Sons Co., York and Cedar Sts., Philadelphia, Pa.

170. Gates Textile Accessories—showing the increased efficiency and economy to be secured through the use of Gates cone belts, evener belts, card bands and loom binder cushions. The Gates Rubber Company, Denver, Colo.

171. Design of V-Belt Drives—48 page booklet full of valuable tables and data showing the type, number and design of V-belts that will give the greatest efficiency on each particular drive. The Gates Rubber Company, Denver, Colorado.

176. Sonoco Products—A 60 page illustrated booklet giving descriptions, specifications and charts of the many Sonoco products, including bobbins, cones, tubes, cork cots, roving cans, spools, rolls, etc. Sonoco Products Co., Hartsville, S. C.

184. Speed Control Handbook T-35—new reference book on variable speed control, said to be the most complete and helpful book on this subject ever published. 112 pages and more than 200 illustrations of interest to every production executive, purchasing agent, superintendent, overseer and master mechanic. Reeves Pulley Co., Columbus, Ind.

185. Dulux—**The White Finish That Stays White**—New book describing the new ten-point finish for factory walls and ceilings, the finish that stays whiter, stays cleaner and stands repeated washing. E. I. du Pont de Nemours & Co., Finishes Division, Wilmington, Del.

187. The Wildman Single-Head Full-Fashioned Hosiery Machine—Literature on request from the Wildman Mfg. Co., Full-Fashioned Division, Norristown, Pa.

188. Form 498—This form enables you to gather your own cost data on your sewing machines and determine whether new Union Special Machines will show big savings. Furnished free by Union Special Machine Co., 400 N. Franklin St., Chicago, Ill.

213. Saco-Lowell Cotton Machinery—Twisting—a 36 page illustrated brochure explaining the company's twisters and parts, including the four basic type twisters, features of new construction and general notes on twisting. Production calculations and specifications are included. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

214. Saco-Lowell Cotton Machinery—Spinning—the second edition of a 56-page booklet, illustrated with the company's product and containing valuable charts, production tables and other spinning data. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

218. Butterworth Electric Guiders—6-page folder describing and illustrating the new Butterworth Electric Cloth Guider. This guider is built on the same principle as the Foxwell Air Guider and is unexcelled for fast, accurate guiding. H. W. Butterworth & Sons Co., Philadelphia, Pa.

223. Alloyed Iron in Southern Industrial Fields—16 page illustrated catalog dealing with the properties available in modern cast irons. International Nickel Co., 67 Wall St., New York, N. Y.

224. "Tank Talk"—Sixteen page booklet of illustrations showing various types of elevated steel tanks, constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said. R. D. Cole Manufacturing Company, Newnan, Georgia.

233. Catalog No. 22—an attractive illustrated catalog describing in detail the Shamrock shipping containers and the new canvas trucks for textile use. Meese, Inc., Madison, Ind.

234. They Stay Brighter Longer—This interesting illustrated booklet containing facts about Mazda lamps will be sent you free on request. General Electric Company, Dept. 166, Nela Park, Cleveland, Ohio.

240. The New Proctor Automatic Yarn Dryer—6 page illustrated folder describing the new Proctor automatic yarn dryer which has the exclusive new Proctor traveling skein protector. Proctor & Schwartz, Inc., Philadelphia, Pa.

253. Bown Air-O-Line Controllers — This booklet will prove invaluable to the men in charge of dyeing, finishing and slashing, as well as the textile executive. 32 illustrated pages describing the various Brown Controllers. The Brown Instrument Co., Philadelphia, Pa.

258. Automatic Overhead Cleaner for Spinning, Winding, Warping and Twisting—24 page booklet showing the new American MonoRail automatic cleaner in operation on MonoRail track circuit over Spinning, Warping, Winding, Twisting, etc. This cleaner incorporates a new scientifically designed blower producing a whirling column of air directed and controlled so that it prevents accumulation of fly with no harm to roving. The American MonoRail Company, Cleveland, Ohio.

260. Lubrication—This attractive booklet contains valuable and interesting articles on loom lubrication and also on spinning design and the function of spindle oils. The Texas Company, New York, N. Y.

261. The Brown Moist-O-Graph—16 page booklet describing the Brown Moist-O-Graph which measures, records and controls the moisture content of cotton warp yarns. The Brown Instrument Company, Philadelphia, Pa.

263. Gastonia Brushes—New catalog and price list showing the complete line of brushes for the textile mill. Gastonia Brush Co., Gastonia, N. C.

272. Where to Buy Monel Metal Textile Equipment—Attractive booklet which lists the names and addresses of experienced fabricators of Monel Metal equipment for the textile mill. The International Nickel Company, Inc., 67 Wall St., New York, N. Y.

284. Morton Nickel Iron Quick Opening Handle Gate Valve—Illustrated leaflet describing the new Morton Valve for dyeing machines, pipe lines, steam and water lines, boiler blower valves and throttle valves. Manufactured in nickel, stainless steel and stainless steel trim. Morton Machine Works, Columbus, Georgia.

288. Triton W-30—Study of wetting agents and their activity with recommendations for textile processing. Rohm & Haas Co., Philadelphia, Pa.

289. Caustic Soda Bulletin—a data and reference book designed for the user of caustic soda. Complete with charts, drafts and formulas. Pennsylvania Salt Mfg. Co., Philadelphia, Pa., who also manufactures Hydrogen Peroxide.

290. Hyatt Roller Bearings on Textile Machinery of All Kinds—34 page booklet which describes and illustrates how Hyatt bearings are being applied to textile machinery. Hyatt Bearings Division, General Motors Corp., Harrison, N. J.

295. Fence Facts—A new booklet illustrating and describing chain link fence in a variety of styles and four different metals for every type of fencing installation. Also wrought iron fence in various beautiful styles. A concise handling of information for those wanting facts about fence. Page Fence Association, Bridgeport, Conn.

296. Full-Fashioned Hosiery Manufacture — Illustrated folder giving the history of full-fashioned knitting and describing in detail the different processes in present day manufacturing and the application of Gulf lubricants to the various machinery. Gulf Oil Corporation, Pittsburgh, Pa.

301. Norma-Hoffmann Bearings Catalog — Norma-Hoffmann Bearings Corp., Stamford, Conn.

305. Tannate Belting — leaflet describing Rhoads Tannate leather belts and their uses and advantages in textile mill operation. J. E. Rhoads & Sons, Philadelphia, Pa.

307. Lane Canvas Baskets—16 page illustrated booklet describing the Lane line of canvas baskets for textile use. W. T. Lane & Brothers, Poughkeepsie, N. Y.

308. Finnell Scrubbers—Illustrated leaflets describing and giving specifications for the new Finnell floor scrubbing machines. Finnell System, Inc., Elkhart, Ind.

311. The Romance of Prairie Gold—attractive illustrated book which tells the story of corn and the uses of corn products in industry. Corn Products Sales Co., New York, N. Y.

312. Cork—The Modern Roll Covering—attractive booklet outlining the uses and advantages of cork for textile roll covering. Armstrong Cork Products Co., Industrial Division, Textile Products Section, Lancaster, Pa.

314. Winding Production Chart—this useful production chart can be used for any style of winder. Also included are instructions for figuring yarn takeup speeds. Universal Winding Co., Providence, Rhode Island.

315. How Handling Problems Have Been Solved—a 50-page booklet presenting in pictorial form many solutions to industrial handling problems and showing how they reduce costs, save labor, eliminate storage and provide free movement of stock between processes. American MonoRail Company, 13106 Athens Ave., Cleveland, Ohio.

317. Circular Knitting Machines—a fifty-two page illustrated booklet containing valuable information on the manufacture of transfer top hosiery. Includes illustrations of rib knitting principles, yarn changers, salvage welt, loose course and methods of laying in Lastex. Sent free on request to Fidelity Machine Company, 3908 Frankford Ave., Philadelphia, Pa.

322. The Application of Soaps and Soap Products to Textile Processing—40-page illustrated booklet covering the principal operations in textile processing. Special notes and suggestions are given for those operations requiring soaps or soap products. Colgate-Palmolive-Peet Company, 105 Hudson St., Jersey City, N. J.

323. Textile Processing with Artic Syntex A and T—50-page illustrated booklet describing the properties of these new materials and giving tentative or suggested formulas for a number of applications in textile processing. Colgate-Palmolive-Peet Co., Jersey City, New Jersey.

327. Sanforizing Machinery—illustrated booklet describing the sanforizing machinery offered by the Textile Finishing Machinery Co., Providence, R. I. This bulletin is available only to finishing plants or executives thereof.

CONTINUED ON PAGE 112

CONTINUED FROM PAGE 111

330. Tools for the Textile Trade—a twelve-page booklet illustrating and describing specially selected tools for all textile mill departments—Loom Fixers, Spinning Room Fixers, etc. Snap-on Tools Corporation, Kenosha, Wisc.

331. Unbrako Self-Locking Hollow Set Screw—Bulletin Form 532 includes illustration and descriptive matter of this latest improvement in socket and screws. This bulletin also features the complete line of "Unbrako" Socket Screws. Standard Pressed Steel Co., Jenkintown, Pa.

332. Hard Maple Flooring—an 8½ x 11-inch folder featuring a close-up of Northern Hard Maple Flooring and specimen pieces to show grades, prepared for the convenience of architects, builders and others when considering flooring grade requirements. Maple Flooring Mfrs. Assn., 333 South Michigan Ave., Chicago, Ill.

333. Fafnir Ball Bearings for the Textile Industry—Outlining the applications and advantages of ball bearings on textile machinery. Fafnir Bearing Co., New Britain, Conn.

334. Precision Winding for Silk and Rayon Yarns—Describes the new No. 50 Lessona Winder and all attachments that are used for silk hosiery threads and rayon yarns. Universal Winding Co., P. O. Box 1605, Providence, R. I.

335. Casters and Wheels—192 pages, describing casters and wheels suitable for all types of industrial application. Every mechanical engineer and purchasing agent should have this. Darnell Corp., Ltd., P. O. Box 4027-N, Station B, Long Beach, California.

337. Sizing and Finishing—A pamphlet which will give the mill man an understanding of starch properties which will lead to greater efficiency in sizing and finishing. Stein, Hall & Co., Inc., New York City.

338. Thickening Materials for Textile Printing—Describing materials and methods employed in preparation of color thickening so that it may be properly and economically transferred to cloth through the medium of the printing machine. Stein, Hall & Co., Inc., New York City.

340. Notes on Cotton Warp Sizing—a 45-page handbook giving valuable data on the purposes and properties of various sizing products, their uses and preparation, with much information on the operation of slashing equipment. Will help solve many sizing problems. Address The Hart Products Corp., 1440 Broadway, New York City.

343. SKF Better Spinning and Twisting—16-page illustrated catalog containing technical information relating to construction and performance of SKF roller bearing spindles, tension pulleys, guide and idler pulleys and miscellaneous pulley and bearing applications. Distributed by all leading textile machinery manufacturers and SKF Industries, Inc., Front St. and Erie Ave., Philadelphia, Pa.

346. Dependable Finishing for Modern Elastic Top Hosiery—describing and illustrating equipment for basting and attaching insert elastic, attaching wide or welt elastic and seaming elastic in women's hosiery. Union Special Machine Company, 400 North Franklin St., Chicago, Ill.

347. Rhoplex Resins—Attractive folder discussing the outstanding properties of these Aqueous Dispersions with suggestions for their application to textiles. Rohm & Haas Co., Inc., Philadelphia, Pa.

348. Johnson Ledaloyl Bearing Bronze—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings. Johnson Bronze Company, New Castle, Pa.

350. Theoretical and Applied Silk-Soaking—Attractive 28-page booklet outlining methods of silk-soaking and outlining investigations on the soaking, backwinding and degumming of silk. Hart Products Corp., New York City.

351. Wetsit—Leaflet describing Wetsit, a synthetic aromatic compound with excellent surface tension reducing properties; gives rapid wetting out and thorough penetration; available in three strengths. Jacques Wolf & Co., Passaic, N. J.

352. Lupomin—Leaflet describing Lupomin, a new cation active softening agent for all textiles but especially acetates and rayon crepes; odorless, permanent and easily applied; imparts soft, full feel. Jacques Wolf & Co., Passaic, N. J.

353. Luposec—Leaflet describing Luposec, a waterproofing agent with great stability; soluble in cold or warm water at all temperatures; suitable for all fibres and especially effective in splash-proofing silk hosiery. Jacques Wolf & Co., Passaic, N. J.

355. Air Conditioning in Cotton Spinning—A technical discussion of the need of adequate humidification and controlled air change in the spinning room of the textile mill of today. As for Bulletin 539. Parks-Cramer Co., Fitchburg, Mass., and Charlotte, North Carolina.

356. Parks Textile Specialties—A 14-page bulletin with brief descriptions of the Parks line—Automatic Airchanger—Central Station and Unit Air Conditioners—High Duty, Turbo and Turbomatic Humidifiers—Automatic Regulation—Traveling Cleaners—Portable Dustless Card Stripper—Humidifier Valves and Accessories. Parks-Cramer Co., Fitchburg, Mass., and Charlotte, N. C.

357. Caro-Gant—The Original 100% Active Warp Dressing. Attractive folder describing Caro-Gant the Warp Dressing that makes stronger more elastic warps with a maximum breaking strength and a minimum reduction in elasticity. Hart Products Corp., New York City.

358. Rhonite Emulsions—Attractive bulletin describing the Rohm & Haas complete line of Urea Formaldehyde Resins for Textile Finishing. Rohm & Haas Co., Philadelphia, Pa.

361. Thaumaphos — The textile detergent — Seven page booklet describing Thaumaphos, the wonderful phosphate. Included is a list of the Thaums brands and a survey of their uses in the wet finishing of textiles. Detergent Products Corp., Atlanta, Ga.

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KNITTING SECTION

Finishing Circular Knit Goods

(*Article 4: Dyeing the Goods*)

• This is the fourth in a series of articles on the finishing of circular knit goods, as prepared by a practical mill man. The first installment, appearing in the August issue, covered the quick bleaching of fabrics on the open tub, the second article, in the September issue, took up the bleach by kier boil and chlorine, the third, in November, described the peroxide bleach. This installment goes into the dyeing of knit goods. The author of the series will be happy to offer an opinion on dyeing or finishing problems related to circular knit goods if submitted through the editors . . .

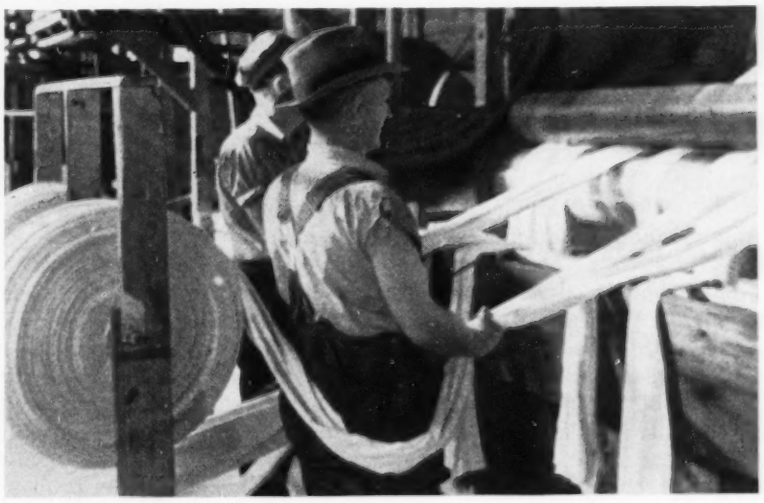
DYEING knit goods is not radically different from dyeing woven goods. The chief difference is the method of application or machine used. Whereas there are many types of machines used for dyeing woven goods, there is only one type used extensively for dyeing knit goods. This machine is the reel machine or slack washer as it is called by some. Direct and developed direct dyes are the type most used on knit goods. Vats, sulfurs, and naphthols can be applied to knit goods with some difficulty, though vats and naphthols are usually too expensive for the type garment made from the goods.

For this discussion the dyeing is divided into the following parts: directs, directs on bleached goods, bleaching and direct dyeing in the same bath, bleaching after direct dyeing, developed directs, vats, sulfurs, and naphthols.

Metal Versus Wood Tubs

As stated before the reel tub is used for this type work exclusively so far as the writer knows. Tubs lined with a corrosion resistant metal are, of course, the most desirable, but if only wooden tubs are available much care must be exercised in their use. A wooden tub naturally retains much of the dyestuff and if a light shade is dyed after a heavy shade, spots will result which will necessitate stripping and re-dyeing. For this reason, if only wooden tubs are available a tub must be used for only light shades or only for heavy shades. If stainless metal tubs are used a yellow shade may be dyed immediately after a black with no harm done.

Goods to be dyed are loaded onto the tub and boiled out with a good penetrant except when the goods are to be bleached previous to dyeing. The boil-out is essential to good results in dyeing. The goods should be run at the boil at least five minutes to wet the goods thoroughly and to remove some of the impurities so that the dye will penetrate quickly and evenly. In dyeing knit goods at our plant a bath to goods ratio of 8 to 1 or one gallon to one pound of goods is used except in the case of extremely light shades, where the ratio is 12 to 1. This ratio may be increased and should be when the size of the tub will allow it. However, this short bath is very satisfactory and results in savings in dye and chemicals. All the tubs at our mill are heated by the introduction of live steam into the bath and this causes dilution of the dyebath. This is not bad, though, for the condensation and dilution is about the same for each load of the same size.

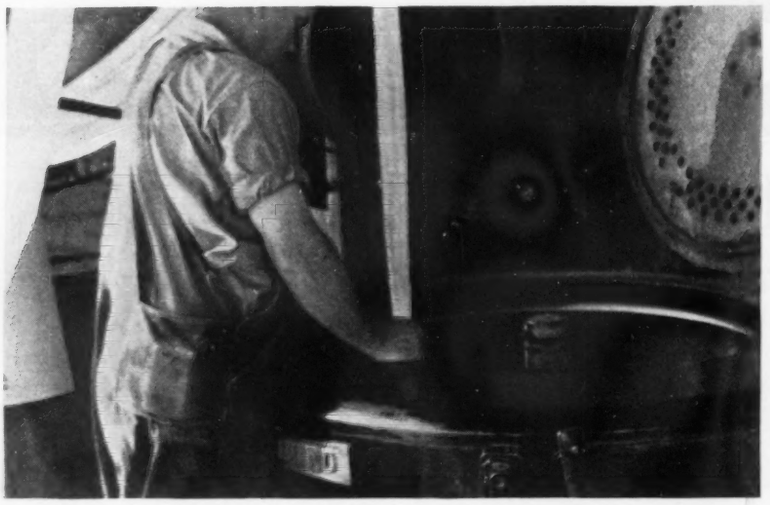


Loading dry goods onto a 20-strand corrosion resistant metal tub to be dyed . . . . . .

Direct Dyeing

After the goods are sufficiently boiled out and the boil-out bath has been dumped out, a fresh cool bath is run into the tub for regular direct dyeing. The proper amount of dye or dyes is added to the tub slowly after first being dissolved in a bucket of water. On some of the larger tubs there is a tank for boiling the dyes into solution. A pipe from this tank runs into the tub and is attached to another pipe which runs the entire length of the tub and has small holes all along its entire length. The dye runs out these holes very slowly and assures evenness. Salt is also added in this manner.

In the case of most heavy



Loading the extractor (water is removed from goods by centrifugal force). . . . . . .

shades, which easily dye level, the boil-out bath may be used for the dyebath and the dye added to this hot bath. This is not advisable when dyeing light or medium shades, and is not advisable on all heavy shades. In the case of light and medium shades the dye is added to a cold bath with the tub running. After the goods have made two rounds through the dye the steam valve is opened. When the goods have boiled for 30-40 minutes 10-30 per cent salt is added in several portions and the boiling is continued until the shade is correct.

The shade is checked by stopping the machine, cutting a small piece of the cloth from one end of a roll, rinsing and drying this piece and comparing it with a standard. If the shade is too light the goods must be run longer in the bath or more dye must be added to the bath. If the shade is too heavy the bath must be let out and some of the dye washed from the cloth. After the shade is matched, cool water is run in the tub and 10 per cent salt is added to prevent too much dye washing off. The goods are unloaded from this bath.

Some direct shades such as gold, orange, etc., are so light that the impurities of the goods show up after dyeing. This necessitates the partial removal of these impurities before dyeing. A boil-out with 1½ per cent sodium peroxide will do the job and will also eliminate the need of boiling out with another agent. This bleaching should be followed with a hot rinse to remove some of the alkali when it is objectionable.

Dyeing—Bleaching in Same Bath

Dyeing and bleaching in the same bath present quite a few difficulties. The usual procedure is to use about 1½ per cent sodium peroxide in the dyebath. The reason for this method is to save time. It goes without saying that only certain types of dyes can be used in this method and also it is not advisable to run many new shades by this method for it takes several trials to find the proper dyes and to match a shade.

Each load should be run the same length of time to aid uniformity. Even when running the loads the same length of time the results will vary with the amount of steam pressure available. This variation must be allowed for and the time compensated for when necessary. The absolutely accurate method is to attach a thermometer to the tub and keep the temperaure of the bath at the boil for 40 minutes regardless of the time required to get the temperature up to that point. Shades dyed in this manner are, of course, very light—tints to be exact—requiring only about 1 ounce of dye for 100 pounds. With all possible care exercised this method will produce varied results.

The peroxide tends to brighten, weaken, and redden the natural shade of the dye. Then, too, the shade will change from the red side considerably on aging. No rules can be set forth to cover the variations of this method.

Peroxide Bleach After Dyeing

Bleaching with peroxide after dyeing is also used only on light shades and tints. The reason for using this method rather than one of the previously mentioned methods is to brighten the shades as well as to remove some of the impurities of the cloth. Here again it is very important to select the suitable dye or dyes—those that will give the desired results when bleached. After dyeing the goods by the usual direct process, 1½ per cent sodium peroxide is added to a fresh bath and the goods are run in this at the boil for about 30 minutes.

Developed Directs

Developed directs are used on goods to be made into outerwear garments where washfastness is the prime requirement. These shades are not as fast to light as some directs, but the washfastness is more important, with a limitation on the cost.

Dye is first applied to the goods just as in the case of directs. It is advisable to use a penetrant to secure better results on most shades. When the dyeing is completed the dyebath is dumped out and the goods are rinsed in cool running water to remove the excess dye and also to cool the goods down to a temperature suitable for diazotizing.

Diazotizing is accomplished with 1½-3 per cent nitrite of soda and 3-5 per cent (depending on the depth of the shade) commercial sulfuric acid. Much care must be exercised to assure that the bath is below 80 degrees F. or the reaction will not take place properly. Ice must be used to cool the water when necessary.

The nitrite should be dissolved in a bucket of water and added to the machine first. After the goods have run in the nitrite and are thoroughly saturated, the acid is added and the goods run in this 15-20 minutes. Another thorough rinse after this reaction is necessary to remove the excess acid which will affect the developing adversely. Developing follows using 1 per cent of the proper developer (depending on shade)

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with about ½ of one per cent soda ash except in the case of naphthols used as developers. Running 20 minutes in the developing bath assures complete developing of the color.

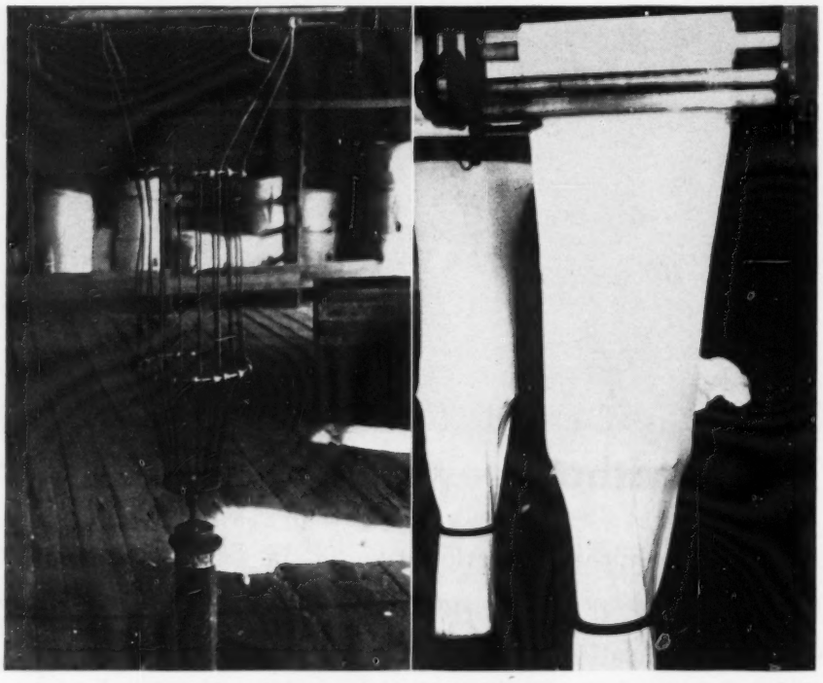
After a rinse in cold water the goods are soaped with a 1 per cent soap solution at 160-180 degrees, rinsed in warm water, and unloaded from cool water made slightly acid with acetic acid, which brightens the shade. A small piece is cut from the end of a roll of goods and dried for checking the shade. Unless the shade is too far from the standard it may be corrected by washing the heavy shades down and by topping shades that are too light with a direct dye.

When a new shade is being dyed a small piece of the goods should be cut off after dyeing and this piece diazotized and developed in the laboratory. The shade may be checked by this and dye added or removed before finishing the entire process. Finishing a sample in the lab like this will not give exactly the same shade as when finished on the tub, but will be close enough to save quite some re-running of a new shade.

Unevenness in Dyed Goods

Many references have been made to unevenness. This cannot be mentioned too often for this is the most common trouble in running this type of goods. Since the goods are run in the rope form the chance for getting uneven results is much greater than would be the case were it possible to dye the goods in the open width. Adding dye and salt very slowly and evenly across the tub is the best way to reduce unevenness.

Some dyes will dye evenly under most any conditions. Others require the utmost care to go on evenly. Some work better when started in a hot bath—others work well only when started in a cold bath and very slowly heated up. Some dyes will not give even results if too much salt is added. One particular dye will partially precipitate in the bath if more than 5 per cent salt is used and dark spots and streaks will result. Most uneven shades are caused in the application of the dye, though unevenness can result from improper diazotizing and developing. Since each dyestuff has different characteristic properties, no set of rules can be made to follow. Each shade usually presents different problems. Remedies and causes for these problems is common knowledge of most dyers and was gained only through experience.



Left, drying equipment without cloth, showing metal frame over which cloth passes. Right, the knitted cloth being dried. Hot air comes from inside out. Roll of goods at top has been dried. . . .

Vat and Sulfur Dyeing

As has been mentioned, vats are seldom used on knit goods—mainly because of the cost. Then, too, much difficulty is encountered in dyeing vats on knit goods on a reel tub. The fact that the goods are run in the rope form is cause for most of the trouble. Also, the goods are exposed to the air each time they pass through the rollers and over the reel. This often causes marking due to the oxidation of the air, increasing the amount of hydro and caustic necessary to keep the dye reduced. Dextrine has been used to aid the reduction. By adding the dye in the pigment form and keeping it completely reduced while it is supposed to be, fairly good results can be obtained.

The same points brought out about vats apply to sulfur dyes since they are dyed in much the same manner. Sulfurs are, of course, much cheaper than vats. When a good combination of dyes is used, i.e., dyes that work well together, a fair degree of success is obtained.

Naphthol Dyeing

Naphthols are used to about the same extent as are the two previously mentioned types—only on material used to trim white garments. There is little to say about the dyeing of naphthols except that better results are had when the naphthol is applied hot rather than at room temperature. The goods are not dried after the naphthol is applied. A salt rinse before developing is all that is necessary.

Drying the Goods

Finished goods are unloaded from the tub into small boxes (4-5 rolls in each box). Much care must be exercised in keeping these boxes clean and separated by unloading goods dyed a heavy shade in a dirty box and by putting only white goods in white boxes. Most of the water is removed from the goods by a centrifugal force extractor. The goods are dried by hot air while passing over a metal frame which spreads a roll out to its proper width. After drying, the goods are ready to be cut into parts for garments.

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KNITTING KINKS

The Komet Machine

Article 1

The Knitter and the Komet

• EDITOR'S NOTE—*The present day Komet knitting machine may be described as a ribber and a knitting machine built into one unit equipped to knit on two feeds while making the top, leg and foot. It will produce children's and misses' anklets, men's hose (regular length) and slacks, in plain or horizontal stripes. All goods made on a Komet have a selvage welt, genuine 1 x 1 ribbed top which can be made with or without laid-in elastic. Many combinations of broad ribs such as 6 x 3, 2 x 2, 9 x 6, 6 x 6 and others can be used for leg and foot knitting.*

The machine is equipped to produce four-color horizontal stripes with laid-in elastic top plus one color in the auxiliary feed or five colors without elastic laid-in top plus one color in auxiliary feed.

Plaited numbers can also be made; double-sole splicing attachments are available. The machines are built in diameters of from 3 to 4 inches inclusive, of fine and coarse gauge.

CIRCULAR hosiery machines are of course not a new invention; they have been in constant use for many years. Perhaps no other machine has undergone so many changes, had so many devices and attachments added to it, and been made to do such a variety of things as the present-day circular hosiery machine.

Today we have machines expressly designed and built to produce certain distinctive types of hose, such as ladies' seamless, fancy half-hose for men and boys, plain and fancy children's hose, and infants' hose.

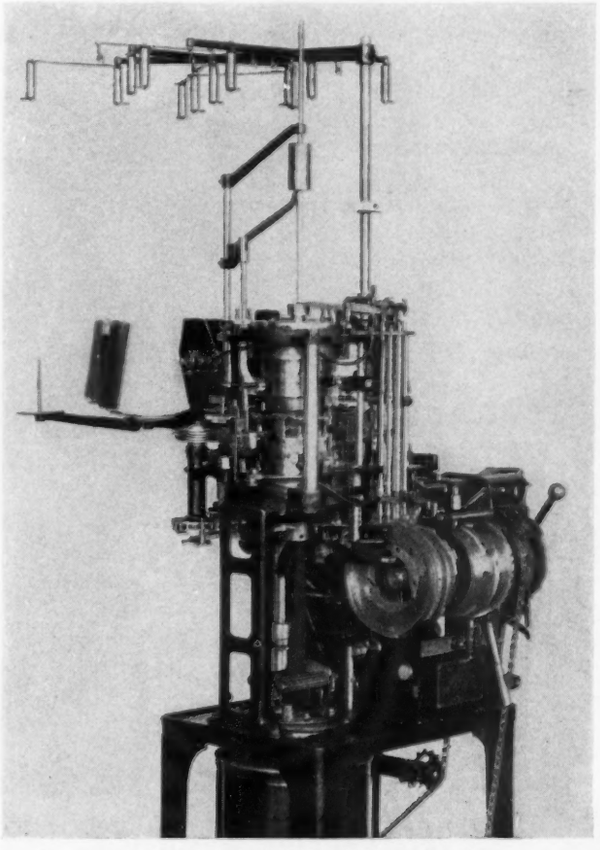
The various machine builders are constantly developing new devices and very often they go back to an old idea of many years past and revive it, as it were, into something to meet today's demands for merchandise that can be sold at a reasonable profit for the producer. Many new developments come from mills; they are ideas which are born in the minds of the men who keep the wheels of our knitting machines turning. I'm talking about the best bunch of boys in any American industry today—our machine fixers. They, together with the machine builders, form a combination of productive brains and ingenuity that cannot be beat; together they have made our modern circular machines what they are today.

There is no doubt in the minds of those of us who have been connected with seamless hosiery production for the past 20 years that Scott & Williams have played and still are playing a mighty important part in the circular machine-building field. With all due respect for every type and make of circular machine in use today, the writer believes that today's Komet is the most interesting of them all. More than that, the more you watch it operate, and try to understand what makes it "click", the more fascinating it becomes.

Komet machines also are not new. It will be remembered that they were built in England away back yonder and are still being built unless one of Herr Hitler's bombers has scored a direct hit on the Bentley plant in London. The writer saw his first Komet back in the early 1920s at the hosiery show in Philadelphia. The present day two-feed Komet has come a long way in design, workmanship and production possibilities, to be sure; what future Komets will be able to produce is something that today's Komet fixers are waiting to see.

Operation—As It Concerns the Knitter

Certain types of machines only become obsolete when the men who build and maintain them are willing to admit it. So, with the present-day Komet machine in mind, the writer will endeavor to cover as well as his limited ability will permit the operating and fixing problems that confront today's Komet fixer.



The Scott & Williams Komet Machine

Any person of average intelligence can be taught to operate the Komet machine. Some mills for various reasons prefer men knitters, others prefer women, still others use both. The writer believes that it makes little difference whether men or women operate Komet machines. The important question is: Are we selecting the right type of person for the job; does he or she have what it takes to make an efficient Komet operator?

Komet operators should possess an abundance of patience; the "I-can't" kind will never do. Good vision is vitally important and the operator must not have a single-rack mind. The ability to remember and carry out certain definite intructions will be an asset. A person who is naturally nervous (or "jumpy" as one of our boys so aptly put it) is the wrong type to make a good Komet operator. We need an operator who can keep both feet on the floor even when we have one of those bad days when everything goes wrong.

A Komet operator's work can be divided into four parts: (1) Keeping yarn on machines; (2) separating the hose; (3) inspecting and tying up dozens; and, (4) keeping the machines clean. There is a right and a wrong way to do each of these four jobs.

Supplying Yarn for Machine

1. *Keeping yarn on machines.* An adequate supply of yarn should be kept close at hand so the operator can save steps and time once the day's work is begun. All machines should be set up exactly alike on a given style, no matter who the fixer is or which set or section of the machine it happens to be. By that I mean place each cone of yarn at a given place on the yarn stand and thread it through the various eyelets and tensions down to and into the respective feeders exactly alike on a given style. In other words, develop a *standard set-up for each style* and stick to it. Very often it becomes necessary to transfer an operator from one set of machines to another, or from one shift to another. It confuses operators to say the least, when they are transferred and find machines threaded up differently each time. Standardized methods of doing even simple tasks will prevent errors and thus help toward better production.

Keeping yarn on machines also means preventing press-offs which is a big item on Komets since press-offs mean loss of time and production, damaged needles, seconds and waste—not to mention extra work for the machine fixers and helpers. The operators are of course entirely at fault when they permit cones to run off and cause a press-off; they must be taught that such carelessness will not be permitted. Press-offs are of course more likely to occur where a single end of yarn is used for each feed; if at all possible, two ends for each feed should be used. Bad winding, large knots, faulty knot-tying and the like can also cause press-offs which would be no fault of the operators; however, they can be taught to look for and report such things so some action can be taken to eliminate them.

Separating Hose

2. *Separating the hose.* This part of the operator's work is a simple task. Good vision, speed and carefulness are necessary. Separation of hose should be done while the machine reciprocates during the heel and toe knitting, thus preventing unnecessary machine stoppage. Ordinary knitting yarns do not make a good draw thread. Much depends in this connection on the kind of goods being made, whether they be mercerized, ingrain or natural, combed ingrain or natural, wool or boiled off silk, etc. Spun silk makes a very good all-around draw thread since it is strong (if the count or size is within reason) and smooth, which makes it easy to pull out. Three and four ply mercerized yarns (with more twist than ordinary knitting yarn) having a good smooth finish, also serve well for draw thread purposes. The writer's personal experience and much questioning of other Komet men indicates that they find little difficulty procuring a suitable draw thread for natural or ingrain mercerized numbers, combed numbers ingrain or natural being the harder of the two. Wool and mercerized run about the same.

To insure speed on the operator's part, draw thread yarns should at least be tinted for all natural goods. Dyed draw thread yarns for natural goods are out of the picture since the operator cannot leave even a small part of the thread in the top or welt of the hose without causing some trouble in the dyeing and especially in the bleaching processes during the finishing operations. Even resist-dyed yarns invite difficulty in more ways than one. Any good yarn of a contrasting color to that being knit will be helpful as a draw thread for ingrain work.

A small pair of scissors or so-called nippers with sharp points will help the operator speed up in finding the proper end, cutting it, severing the course above the welt and pulling out the draw thread and the severed course which permits actual separation of the hose. Speed is the important factor to be considered when we think of separating Komet hose; we must eliminate anything which tends to slow up or work a hardship on the operator.

Inspecting and Tying Bundles

3. *Inspecting and tying up dozens.* Here again we have a simple task which requires speed, good vision and good judgment; the latter two help to build up the first. We often hear an operator say, "I should wear glasses, my eyes are giving me trouble, but I cannot afford to have glasses fitted." They should be told the truth that they cannot afford *not* to wear glasses. Komet machines like others make certain kinds of imperfect goods and operators must be able to tell whether bad work is being caused by yarns or machine trouble, whether the fabric is knit too loose or too tight, and above all, when they find some defect, whether it is safe to let the machine continue to run or not. Many think a knitter's job means letting the take-up can fill up, and then separate the good work from the bad. By keeping the bad work from each machine separate for the day or the shift, the knitter can determine which machines produce the most good work and the most bad work, and the bad work can be sorted into imperfects, seconds, thirds, or what have you, and all concerned will know what to look for the next day.

The war against bad work in a hosiery mill is not

a blitzkrieg; it is a perpetual war. An operator who can really inspect work and find defects can be a great help in keeping a set of machines in good running order. We shall hear more about this in connection with fixing problems. Knitters will do well to remember that someone handles their work after them, and tie goods up neatly and fill out tickets with style numbers, sizes, etc., so they can be read. It takes as long to scribble as to make plain figures.

Cleaning Machines

4. *Keeping the machines clean.* It is remarkable how filthy knitting machines can get in a short time if no one cares about them, and how easy it is to keep them looking like new if we wipe them off every day. An operative who does not possess enough gumption to keep his or her machines clean will as a rule lack enough brains to make a good operator. In cleaning Komet machines as well as other types it is well to remember that wads of lint will cause press-offs, break needles, and sometimes do great damage if they get in the wrong places. There are also a number of minor parts which can be disturbed by cleaning if the operator is careless or not properly instructed.

A check-up by the fixer after cleaning will save him work and the mill money. I have had little to say about keeping machines clean. Let me tell you how I feel about it—a filthy human and a filthy machine both look alike to me.

Now there is one "don't" which to my way of thinking is one of the most important for a Komet operator to remember and one which I am confident every Komet fixer will be 100 per cent in favor of: Don't tinker with your machines. A knitter's job, as stated previously, is keeping yarn on the machine, separating the hose, inspecting and tying up goods, and keeping the machines clean. If the operators do this well, they will be busy.

Adjusting yarn tensions, making adjustments to secure correct fitting, putting in needles and sliders, changing pattern chains, etc., are jobs which should be done by the fixer or apprentice. The knitter should stick to his knitting.

If there is a place where knitters that tinker with their machines behind the fixer's back go after they die, we fixers would like to stop by and say "Howdy" to some who thought they had us fooled. They should have to fry in their own fat.

In the next article in this series, the writer will take up Komet operation as it concerns the fixer. We shall consider starting up the new machine, the value of spending time at the plant where the machines are made, how Komets are assembled and tested under the most careful supervision, and many other things which we feel should be of interest to mills operating Komet machines. Then, as our limited knowledge permits, we will get on to machine-fixing problems and difficulties.

K. O. METZ

FF Machines on Wood or Concrete Floor

What is your opinion as to the relative value of placing full-fashioned machines on wood or concrete floors? . . . . . .

EDITOR COTTON:

We are installing some new full-fashioned machines, on a reinforced concrete floor overlaid by tar, concrete and standard wooden floor construction, with hardwood finish.

I heard one of the machine erectors explaining to one of the helpers we had assigned them for cleaning machinery that the wood floor was not the best foundation for full-fashioned machines; that they ought to be placed on solid concrete.

I think I know better, but I listened rather than interrupting, and heard the helper, (our man) explaining to him just how hard the concrete floor was on operatives as related to tiring feet and legs, and he concluded by saying: "Even a mule has more sense than to walk on concrete; you can take one and put him out on a concrete highway, and leave him alone, and he will immediately cross over to the shoulder of the road and walk on dirt."

I thought that it was very good homespun philosophy, and wondered after all if it had ever occurred to a good many engineers, architects and promoters of hosiery mills that they had less judgment than a mule.

Getting back to the technicality of the machine being installed on concrete, it is admitted that solid foundation of concrete or similar construction is best suited for full-fashioned machines, but after the foundation has been made of sufficient rigidity, is it still better for the machine to have some wood cushion between the concrete and the legs of the machine?

CONTRIBUTOR NO. 7163

Streaks in Full-Fashioned

And how the dyer may correct streaks in certain instances . . . . . .

EDITOR COTTON:

"CONTRIBUTOR NO. 6953", writing on page 177 of the October issue of COTTON, wants advice on how to eliminate streaks from full-fashioned hosiery, but fails to mention whether the hosiery he finds streaked is made of silk, rayon, cotton or any mixture of the three fibers. Had he done so it would be easier to advise him.

The writer readily agrees with this contributor that "there are many factors that enter into the problem of streaks" and not knowing what kind of hosiery is giving him trouble will endeavor to point out some of the sources of streaky hosiery, how they were traced and corrected during the many years of his experience. It is hoped this contributor and other readers of

They mean a lot *to me*

"Buying things professionally for other people is an exacting occupation, calling for knowledge of quality in hundreds of different types of merchandise. Stockings are among the items I am asked to select most frequently — especially for Christmas gifts. Demands vary in style, color and sheerness, but smooth, uniform knitting is a "must" in all purchases. I favor the brands that are the most consistently reliable on this point — not only for my professional purchases but for my own use too. Naturally, good, well-knitted stockings mean a lot to me!"

Whatever the type of stockings you produce, or however large the variety of your styles, smooth knitting is important — and smooth, uniformly made needles are essential to good knitting. Torringtons will give you the consistently reliable service you need. They are the machine-made, machine-tested needles. Their finish, temper, and dimensions are all assured by the exacting Torrington machine methods of manufacture. Let Torrington meet all your needle requirements.

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COTTON may profit by it and find the solution of their streaky troubles, and eliminate them.

Streaky Courses

Hosiery knitted with silk and mercerized cotton may be found with streaks in the heels, toes, and tops which run with the courses in the knitting. These light and dark lines are also called tiger stripes and are sometimes caused by cotton yarn badly mercerized, and sometimes by yarn that has been mixed by the mercerizer or the knitter. In this case it is extremely hard to get an even dyeing in those parts of the hosiery. The tiger stripes can be leveled up somewhat in the dyeing by boiling the dyebath, adding to it double the amount of sulphonate oil and some known dye-leveler, using no salt in the bath for at least 30 minutes continuous boiling. The source of these streaks is quite evident and their elimination obvious. The writer suggests that the hosiery mills do business with reliable yarn mercerizers.

The silk portion of the stocking may also be found streaked in light and dark rings which run in the courses when using silk from different lots, thrown together haphazardly; silk bought from different throwsters may cause streaks, and also knitting freshly thrown silk with silk which has been stored for some time, where the softener and emulsifier used by the throwster has oxidized on the thread, will show up in the hosiery.

Throwsters have their pet formulas for soaking raw silk in preparation for winding and other operations for which the silk has to be kept soft and pliable. Some use vegetable or animal fat, oil or soap in their soaking solution, others prefer preparations containing mineral oil or fats. While the different ways of preparing the soaking solution for that purpose may not be injurious to the thrown silk, mixing silk prepared with different solutions will surely lead to trouble. The silk soaked with the mineral oil solution will dye a shade or two yellower. The writer has never found a way to remedy such condition, which is especially noticeable when dyeing light or medium shades.

Streaks from Dirty Needles

An avoidable source of streaky hosiery is that caused by rust and black carbon marks in the gores of the heels and toes of the hose. These are caused by needles that are not kept clean and there is no excuse for having dirty needles in the knitting machine. They should be cleaned thoroughly and regularly even when using the so-called stainless oil, which cannot remain stainless unless it is kept in the can. Especially when new needles are put in the knitting machine streaks of this kind appear in the stockings and they are supposed to be removed in the boiling off bath, but they seldom do, unless special care is taken of them.

If there are not many stockings with these black streaks the best way is to have the inspectors pick them out of the bundles to be cleaned separately. If there is much hosiery so streaked the whole lot can be cleaned by a special treatment in the boil-off bath.

It is possible to clean a whole batch of hosiery if the bath is prepared with a higher percentage of the usual degumming material and adding to it some effective solvent. About 2 per cent ammonia will do. The goods are entered at a temperature not higher than 100 degrees F. and the machine run about 30 minutes. Then the steam is turned in slowly so the bath will reach the boiling point in about 30 more minutes, and boiling continued until degumming is completed, which will take another half hour. The batch can then be washed ready to be dyed.

Starting the boil-off at the low temperature the gum in the silk will swell up, but will not drop from the fiber so readily as it will in the boiling bath. The black streaks, rust and grease adhering to the gummy silk coming to the surface of the fabric with the swelling gum is readily squeezed out of the goods as they are tumbling in the rotating drum of the machine.

Greasy Streaks

Badly greased hosiery and especially streaky stock that has been in storage for some time may have become rancid and oxidized. It is generally believed that the boiling off bath will remove every stain, grease and all impurities along with the sericin. This is only true to a certain extent. The writer has seen stockings so badly greased that when in the degumming bath the grease dropped in lumps which lodged in other stockings, staining them also, making a bad job worse. The best way is to have all greasy goods removed from the stock and cleaned separately.

A good way to treat soiled and badly greased hosiery is to soak it a few hours or overnight in a bath made up with 2 ounces of olive oil soap together with ½ ounce of pine oil scourer, chlorol, or any harmless detergent for every gallon of water. Make up solution enough to cover the spotted goods properly, and soak at a temperature of about 100 degrees F. After the goods have been soaked the allotted time the dirt and grease will have been softened and partly emulsified and can be easily squeezed out by hand, through some rollers, or pounded out of the goods in a tom-tom. Every stocking can be cleaned and saved in this way, reclaimed in good condition regardless of how greasy they may have been, besides preventing other goods from being soiled by coming in contact with them.

In any case degumming silk hosiery should always be started with the bath at a low temperature for best results and cleaner goods, and the bath raised slowly to the boiling point. If there are spots or greasy goods in the batch they have a chance to be cleaned, distorted stitches will straighten out in the slowly swelling gum, rancid matter, and all impurities from lubricants, softeners or anything used in the throwing and knitting will be emulsified and be easily washed out of the hosiery, instead of being cooked into the fabric by immersion in a boiling bath.

Streaks from Incomplete Degumming

Much streaky hosiery is the result of incomplete degumming under the mistaken idea that some gum should be left on the hosiery to improve or to obtain a better finish. In a stocking dyed in a laboratory it is probably possible to leave part of the natural sericin on it and obtain a level dyeing. With a lot of hosiery tied up in bags and dyed in a machine it is utterly absurd to expect every stocking uniformly degummed with part of the sericin left on it. The hosiery has a thin portion, the leg part, and parts of varying thick-

ness, as the sole, the heel and toe and the welt, besides the seam. In order to obtain a uniform dyeing and have the dye well penetrated in the differently constructed parts of the stocking the gum must be thoroughly and uniformily removed or results will not be of the best.

However streaks from incomplete degumming is not always the outcome of trying to obtain the impossible. Too much hosiery in the machine, or too many stockings in the dyeing bags, causing imperfect circulation of the bath through the goods may cause streaky dyed hosiery. If the degumming is at fault the hosiery will be found stiff and harsh in places where the gum is still on it. The way to remedy it is by completely removing the gum in a new degumming bath and redyeing in the same bath or in a fresh Glauber salt bath, using a larger machine or less hosiery in the bags as the case may be.

One way to insure proper circulation and avoid streaky dyeings is to have the rotary drum rotating at the proper speed. Too rapid rotation is harmful because the goods get tangled up fast and badly; too slow motion gives not enough agitation. From 3½ to 4 revolutions of the drum per minute is the proper speed and when properly geared the machine can be kept constantly within these limits.

Streaky Finish

Since the use of delustering, waterproofing and heavy finishing materials have come into demand the problems of streaky hosiery have increased. The delustering compounds may go on uneven and make the hosiery look like powdered chalk has been sprinkled on it. When the stocking is looked at it underhand it will look dull in streaks and shining in others. Usually the addition of a small amount of sulphonated oil and raising the temperature of the finishing bath may even up the delustering, but will also diminish the dullness and change the shade to the detriment of a good match. so it will have to be done carefully.

It is always recommended that dyed hosiery should be kept in damp sacks for at least two hours to equalize the moisture throughout the hosiery, but should be boarded as soon as possible after that. In so doing properly finished hosiery will be the rule. Keeping the goods too long in a moist condition is the best way of courting trouble. Wrinkles, especially with rayon goods, may be permanently fixed in the hosiery; what moisture is being left in the hosiery to facilitate the boarding may evaporate in spots and leave circles and streaks which are very hard to remove.

The same thing occurs when a degummed lot of hosiery is kept in a moist condition over the week-end or longer before dyeing it. The mosaic effect in various designs which appears, and can only be seen in the finished hosiery, have caused many headaches to dyers because hosiery so streaked is very hard to refinish and make presentable again. Stripping the color and re-dyeing the lot is the easiest way out.

A most important reason why hosiery should be boarded dry as soon as possible is to prevent the ravages of mildew, which will surely infest the goods if kept too long in a damp condition. If the mildew is only incipient, washing and refinishing may save most of the goods. If it is discovered too late re-dyeing it is the only remedy and should be done at once.

Mildew, when started, will grow rapidly, goes deep into the fabric and, if not checked, will show the ravage even when the goods are re-dyed into a darker shade. To allow goods to get mildewed is inexcusable. It never occurs if the goods are attended to promptly.

Hosiery has been found with mildew on it before it had reached the dyehouse and was caused by having it kept too long damp when in the grey. Also bundles of mildewed leggers have found the way to the footing machine to be finished and then sent to the dyehouse. An alert dyer should detect mildewed goods when the hosiery is sent to him. If he does not and afterward the dyed and finished hosiery is found streaky and full of splashed effect he will have a hard time explaining why he cannot account for the damage. By its peculiar smell mildew is easily detected and conditions should be remedied before the damage increases. The cause and remedy against mildew is too obvious to require explanations.

CONTRIBUTOR No. 7024

Hahn Attacks Nylon Hosiery Price "Unjustifiable Increases"

Declaring that the heads of department stores ought to take action to head off "unjustifiable price increases such as have taken place on nylon hosiery", Lew Hahn, manager of the National Retail Dry Goods Association, asserted the reputation and good will of the retailers are involved thereby and they should not take the blame for what is done by the manufacturers. Mr. Hahn said many buyers have been paying a premium on the wholesale price of nylon in order to get the stockings to sell at the upset retail prices without any increase. He also said another condition had developed in which some manufacturers in addition to requiring buyers to buy silk hosiery which they did not want also raise the price on the silk goods. This has had an unfavorable influence on the hosiery department's market, according to Mr. Hahn, who said one hosiery department's markup had decreased 2 per cent since the introduction of nylon.

"It seems evident that nylon hosiery has not exactly encouraged profiteering in retail stores. Despite these facts, however, the price of nylon stockings has been going up. Probably every hosiery buyer has received letters from various manufacturers notifying the trade of increased nylon prices and proposing that retailers raise prices on the goods they have in stock. Many buyers seem to have fallen for this argument without realizing that if nylon prices are raised enough to encourage the sale of silk, the increased demand also will have the effect of raising the silk prices and we shall be back at the same point that we were before." He also pointed out that in some spots retailers are offering nylons at cut prices and Mr. Hahn pointed out the effect upon the consumer of having a concern offer nylons at such prices when her favorite department store may not be able to supply her with nylons at all even at higher prices "is something which deserves consideration".

TRENDS AND HIGHLIGHTS OF THE KNIT GOODS MARKETS

Hosiery Becomes More Active with Price Trend Firmer—Full-Fashioned Hosiery Mills Active with Holiday Orders—Underwear Knitters Raise Prices on Both Cotton and Wool Numbers—Army Knit Goods Buying Expanding, Making Early Deliveries Problem in Some Numbers.

November 16, 1940

KNIT GOODS MARKETS reflecting the high level of general business and also seasonal factors, have turned more active and at the same time there is more reaching for goods for delivery further ahead than seen for months. Full-fashioned hosiery mills here in Pennsylvania are now running almost full time compared with only half time a month back. Underwear mills are busy both on civilian and military orders with the large amounts of wool knit underwear recently contracted for by the Army being a factor in the entire market so far as those deliveries are concerned. Half-hose mills are also more active with jobbers reporting best demand for these lines in months.

Full-Fashioned

Although shipments of women's full-fashioned hosiery so far this year or to the end of October were 3 per cent smaller than in the same period a year previous, the situation in the last few weeks has taken so much of a turn for the better that this situation is apt to improve compared with last year by the end of December. Mills in the Philadelphia area are working up to full time rates and some of them report that large buyers are in the market for deliveries beginning in January. In view of this some mill men feel that the usual seasonal letdown in operations of these mills after the Christmas rush is over will not be so noticeable this year.

The drop in raw silk prices over the last month amounting to close to 50 cents has softened prices in some sections of the market but this has not been drastic. Opinion on silk's outlook is less bullish and many feel that silk will stay where it is or trend slightly lower so there is no rush to cover from that angle, but others see general business improving next year so that they want to get down orders for that delivery. In view of this the situation is regarded with more promise by manufacturers although there is no boom feeling expressed.

Nylon full-fashioned goods are very active but there is some unfavorable comment regarding the recent action of manufacturers in advancing prices of nylon women's full-fashioned goods at just about the same time that the Du Pont firm was announcing lower prices for nylon yarn. Manufacturers assert they have had such a poor year that this step in nylon was necessary and later they too admit that nylon stocking prices must gradually go down.

Half-Hose

Demand for men's half-hose has improved materially this month and nearby deliveries in some types are tight with knitters reporting a healthy interest in such goods for delivery next year. This is in contrast to the dullness reported in such lines for months during the 1940 spring season. Hosiery jobbers say that selling of these lines at present is brisk with 25 cent retailers having a call in volume amounts. Many of these are in solid colors but in fancy knits, but the bright designs for the young man continue to be wanted.

Prices have not changed materially because wholesalers and large retailers had covered before the cotton and mercerized yarn advance got far but for the duplicate Spring orders these higher levels will be effective. The consumer will not have to pay higher prices for several months but early next year the firmer wholesale and mill price levels will be effective among consumers.

Wool half-hose has not begun to move at retail as yet but the knitters have had a fair but short run on them. Imports of these were smaller this year but of fair volume due to heavier arrivals early this year from England. Shipments of men's half-hose so far this year or until the end of October were off 6.5 per cent but the slack or short sock shipments were only off 0.6 per cent indicating their popularity. Knitters expect to do even a larger percentage in them for spring.

Seamless

Women's seamless numbers are in fair demand but the year to date has not been quite up to the first nine months of the previous year. The reduction in the price of silk has helped cheaper full-fashioned for women and has not helped silk seamless. Anklets on the other hand have been selling very well and interest for these for the coming spring season has been brisk. Prices of the cotton seamless lines such as anklets are firm but the buying at the old and low prices has been so heavy that retail tickets will not change until later next spring when jobbers have to place duplicate contracts with the mills. Anklet shipments for the first nine months were 7 per cent ahead of the same period a year previous, making the best showing in this respect of any division of the hosiery industry.

Underwear

Next spring underwear prices are starting to advance but only in a moderate way, as mills continue to give regular customers every chance to get in their season's requirements at the first and low prices. The present advances had been anticipated as cotton yarns have been staging a sharp upturn over this period, with changes since the underwear lines were first shown important. The initial underwear prices showed little change compared with a year ago despite higher mill costs in the way of hours and wages.

Buying while good has not been up to that of a year ago when the outbreak of the war was a factor in forward coverage, but some underwear knitters express surprise that their customers have not seen fit to buy more when the higher price trend is so apparent. Some buyers have been extremely cautious in spring coverage to date.

FTC Rule Would Ban Unmarked "Irregular" Hose

After many years of effort by leading manufacturers of full-fashioned hosiery to eliminate the misrepresentation of irregulars as first class goods, the Federal Trade Commission's proposed rules, scheduled for a discussion at a conference in Washington November 19, are believed by many in the trade likely to provide the necessary impetus

toward that end. The FTC acting on suggestions from the industry propose that "irregulars" and "seconds" be stamped as such. The exact method by which the mills are to decide just what defects are to be classified under the two headings was not detailed in the proposed rule on this point. The proposal governing the marking and sale of such substandard hosiery is incorporated in rule 10 of the pamphlet issued by the FTC as follows: "Hosiery which is, or is represented as being irregulars, seconds, or thirds shall be marked 'Irregulars', 'Seconds', or 'Thirds', together with the fiber content stated in conformity with the provisions of rule 8."

"Seconds, miscellaneous unknown fibers: For purposes of this rule, 'Irregulars', 'Seconds', or 'Thirds' shall be considered as including all hosiery which is not of first quality or which contains runs, obvious mends, irregularities, substantial imperfections or defects in material, construction or finish, or which is otherwise not of first class quality. The marking upon the hose provided for in this rule shall be made in conspicuous and non-deceptive manner with sufficient permanency or indelibility as to carry through the channels of trade to the ultimate consumer in clearly legible condition. Letters which are of full faced type and at least one-eighth inch in height may be used for this purpose. It is an unfair trade practice to cause any hosiery to be falsely or deceptively marked advertised, described, branded, labeled, or otherwise represented as not being, or as being irregulars, seconds or thirds when such is not the fact. It is also an unfair trade practice to fail or refuse to make the disclosure in respect to hosiery which are 'Irregulars', 'Seconds', or 'Thirds' as provided for in this rule, such non-disclosure having the capacity and tendency or effect of misleading or deceiving the purchasing or consuming public."

Effect of New Wool Labeling on Hosiery

A review of the Wool Products Labeling Act signed by President Roosevelt October 14, 1940, and effective nine months later has been prepared by the National Association of Hosiery Manufacturers. After the effective date, July 14, 1941, all hosiery containing wool must be stamped in accordance with the provisions of the act which will be administered by the Federal Trade Commission. The introduction or manufacture for introduction into commerce of any wool product which is misbranded is declared unlawful and an unfair and deceptive act or practice within the meaning of the Federal Trade Commission Act. Wool hosiery under the act shall be misbranded if it is falsely or deceptively stamped, tagged, labeled or otherwise identified. If a stamp or other means of identification is not on or affixed to the hosiery and does not show the percentage of the total fiber weight of the wool hosiery (exclusive of ornamentation not exceeding 5 per cent of said total fiber weight) of (a) wool; (b) reprocessed wool; (c) reused wool; (d) each fiber other than wool if said percentage by weight of such fiber is 5 per cent or more; and (e) the aggregate of all other fibers. (Deviation of the fiber contents from percentages stated will not be considered misbranding if it can be proved that such deviation resulted from unavoidable variations in manufacture and despite the exercise of due care.)

Wool hosiery under the act shall be misbranded also if the stamp does not show the maximum percentage of the total weight of the wool hosiery, of any non-fibrous loading, filling adulterating matter; the name of the manufacturer of the wool hosiery introducing it into interstate commerce; if, in the case of wool hosiery, containing a fiber other than wool, the percentages by weight of the wool contents thereof are not shown; if, in the case of wool hosiery, represented as wool, the percentages by weight of the wool content thereof are not shown in words and figures.

Reduction in Nylon Yarn Prices Announced

Although a new yarn and only recently introduced into women's full-fashioned stockings, prices of nylon yarns have been cut in a move that took the hosiery trade by surprise. It was also generally looked upon as a move by the producer of this new yarn to clear itself of any onus for the rather stiff price advances that have recently been made in parts of the trade on this new type hosiery. When it was first introduced the retail price range was from $1.15 up but in recent weeks numerous manufacturers have been eliminating the cheaper prices and some brands of nylon stockings now have $1.35 as the minimum.

With the Du Pont Company announcing a substantial cut in the current prices of their yarn, hosiery buyers and eventually the public would thereby be informed that the hosiery rise could not be supported by any claim of an advance in the yarns. There have been intimations, although not officially confirmed, that the producer of the yarns was not pleased by the advances that have been going on in the hosiery made from its products. Its general policy it was also pointed out had been to reduce all of its new and successful products as fast as possible thereby extending the use for a large number of consumers.

Manufacturers explained that the advances in nylon hosiery prices came about quite naturally through the large demand that has far surpassed the supply available of such hosiery and at present the supply shows small signs of being increased substantially before late spring, this date being mentioned by the producer of the yarns itself. One of the first reactions of the trade to the price change was the general feeling that hosiery prices although higher now than at the start would not be reduced at this time, and probably not before the announcement regarding new prices for next spring. Another angle to the yarn cut is seen by some manu-

FORECAST

(Opinion submitted by COTTON'S market correspondent)

Philadelphia, November 16, 1940

Business activity in the United States at present is without doubt at the highest level in its history and indications are definite that even new highs are in prospect during the coming year. With the Government pouring so many billions into the rearmament program business levels cannot go otherwise than up. The only question is how much profit business is going to get out of this and what changes in civilian business the military priority buying will have.

Indications are that notwithstanding all that Washington does in the way of higher taxes and other measures to keep prices down that demand will gradually force these to higher levels with the greater gains in the lines that are more directly affected by the military buying. In this connection it is interesting to see the changes that have taken place over the month in such commodities as silk and wool. In the former the price advance of 50 cents in the previous month, due to the war scare in the Far East, has been lost as the public here begins to feel that war with Japan is not close at hand. But in wool the large demands on this commodity made by the military program has forced wools to new high levels and the wool industry is working at the best rates in a long time with a larger backlog of orders. One full-fashioned hosiery manufacturer said: "Would it not be wonderful for our trade if they would start to issue silk stockings to the soldiers?"

The wool weaving end of the business is very active and will remain so with prices in wool goods trending gradually higher but the coming advances will be more gradual; in the cotton end of the business weavers and others working on Government contracts are forcing prices of yarns and goods higher and this is apt to continue. Silk is another story and indications are prices will not change materially from the present level unless a real war in that part of the world comes to cut off all supplies. In rayon, prices are unchanged but indications are that this branch of the business will remain firm due to large orders, without military help.

As the large funds spent on the military become spendable by the average consumer then all types of knit goods for the civilian end of the business will become more active. But at that time many wholesale buyers of civilian goods will find that early deliveries are out of the question due to Army or Navy priorities so that the average buyer may decide to cover further ahead. Such a policy always has brought about more price increases and it is likely this time will be no exception over the longer term.

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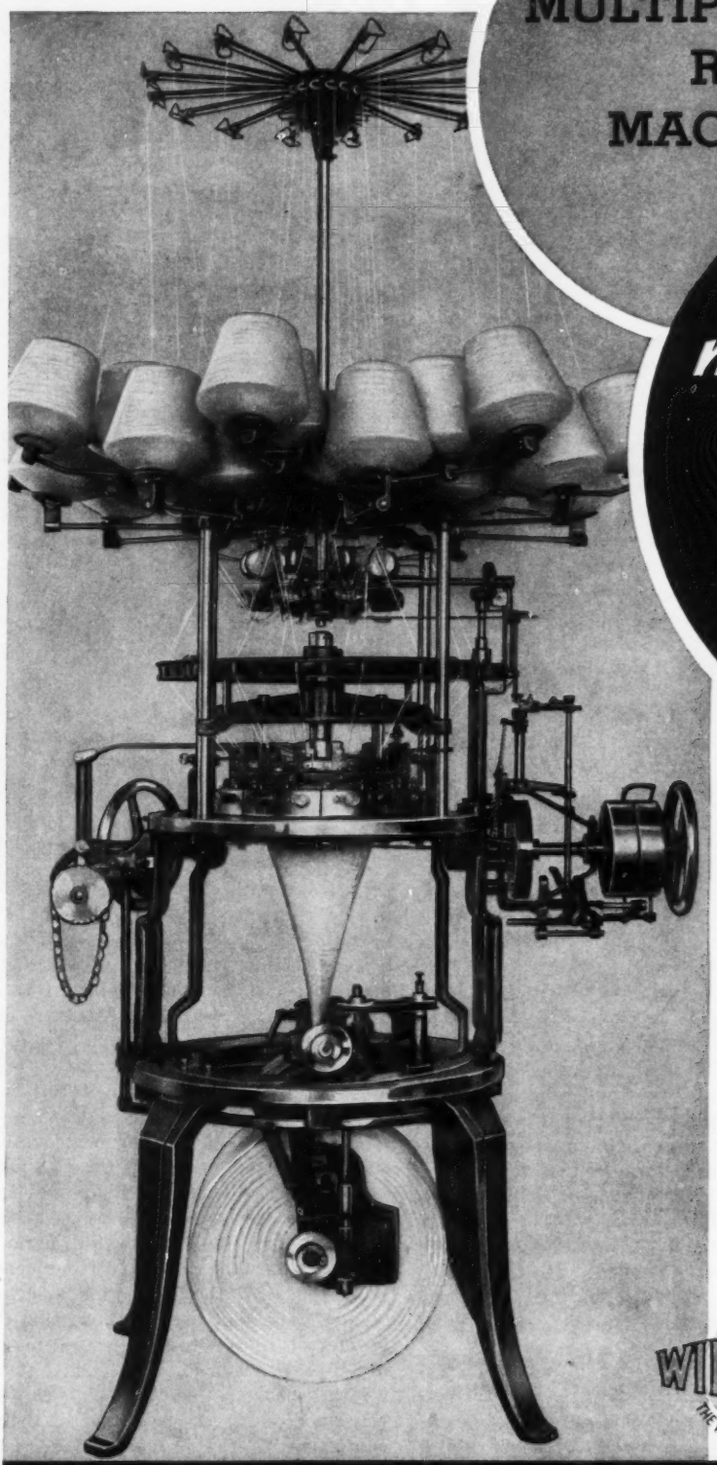

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facturers and selling agents, namely the beginning of a steady cut in the prices of the new product going with the increase in production.

Outside of the policy of the company to reduce prices on its product as fast as possible there has been from the start a considerable opinion that the nylons eventually, as to price, would end much the same as other synthetic materials have done. There is this difference, however, between nylon hosiry and rayons, that the former now have undoubted qualities that appeal to women so that they are willing to pay the enhanced price in order to get the new hosiery. If the yarns therefore are eventually reduced to a much lower price basis than at present it is felt the nylon hosiery will sell in even a much larger volume. In the long run, the result of this development would be felt keenly by the silk market. While there will be more nylons offered generally by the industry between now and the year end the individual producer who has been regularly receiving yarn allotments from Du Pont during recent months will receive no greater share of the total. It is now estimated that about 250 mills are receiving shipments of nylon yarn out of about 400 full-fashioned plants.

National Defense Survey by Underwear Institute

An inventory of the underwear industry's capacity to produce for national defense is being made under the direction of the Underwear Institute. The Institute recently wrote to manufacturers that it was necessary to bring up to date the inventory of productive equipment which was last taken during NRA. Manufacturers have been asked to send to the Institute the following information: Circular knitting machines—manufacturers are asked to list each make of machine and under each make to show the number of each diameter in their plant, distinguishing between latch needle and spring needle machines. Manufacturers having warp knitting machines have been requested to show the number of each width and distinguishing between tricot, milanese and Rachel machines. They are also asked to record the number of each type of sewing machines.

The Institute stated these various surveys have been undertaken in an effort to save the mills from a flood of inquiries from various Government agencies. President Roy A. Cheney is a consultant to the National Defense Commission's Advisory Committee from the American Trade Association Executives and in view of this the Institute has been in position to anticipate such needs in a manner that has given this industry an exceptionally fine record from the standpoint of supplying Government requirements with a minimum of dislocation or inconvenience to underwear manufacturers. It is stated as long as the industry is in position to furnish the National Defense Commission and other interested Government agencies with the information being requested in such a survey the mills will be spared the necessity of filling in numerous questionnaires from various Government bureaus. In view of this full cooperation is urged.

New Nylon Plant Starting in Canada

Canadian Industries, Ltd., recently announced that a plant would be built in Canada for the manufacture of nylon yarn costing approximately one million and a half dollars. Preliminary survey work has already been undertaken. Actual construction is not likely to commence until the spring with production anticipated some time next fall. During the initial stages of manufacture it is expected that the new plant will provide work for some 150 employees. It is understood that the potential uses of nylon as a base for many essential war materials has influenced the company in its decision to provide manufacturing facilities in Canada at the present time especially as the principal commercial values of nylon lie in its ability to replace silk which comes to Canada from Japan and flax formerly obtained from European sources.

A nylon spinning plant is now being erected in Great Britain with the intention of devoting its entire output to Government war uses, particularly parachutes, shroud lines, powder bags for heavy caliber guns, strong and light ropes, cords, webbing, etc. Apart from war uses the output of the new plant will be used to supply the textile and kindred industries with yarn and raw materials for conversion into finished goods. Canadian Industries, Ltd., will also understake the manufacture of nylon monofilament for use as bristles in toothbrushes, hair brushes and industrial brushes as well as for fishing lines and leaders. Canadian Industries, Ltd., is jointly owned by E. I. Du Pont de Nemours & Co., Wilmington, Del., and Imperial Chemical Industries, Ltd., the large British dye and chemical company.

Underwear Mills Proceed to Make Price Advances

Underwear manufacturers are beginning to take account of the sharp rise in cotton yarns, particularly combed numbers, and make advances on further orders for next spring delivery. The next season underwear prices were on a low basis at the opening with no change from those of a year ago but yarns have been advancing steadily since with manufacturers continuing to give buyers a chance to cover at the first prices. Some largely used combed yarn numbers are up 20 per cent from early in the summer and while some manufacturers have been obliged to make price advances the change at present has not been universal, with some in the market still quoting at the original basic. Indications are however that more manufacturers will be forced to advance their prices somewhat in order to meet the new situation in the cost of their essential materials.

Also the Government needs in underwear of all kinds are expected to increase from now on meaning that not only yarn prices will be further affected but also underwear production for the regular trade will be cut down considerably. The underwear mills are gradually becoming well sold on lightweight numbers for the next spring season, the men's underwear as usual selling more freely than women's and children's goods. One large mill has already withdrawn its line for next spring but there are some late buyers including many New York wholesalers as yet uncovered on their next spring underwear needs.

Hosiery Shipments Gain but Under Last Year

Shipments of all kinds of hosiery this September totaled almost as much as a year ago but cumulative hosiery shipments for the first nine months of 1940 were 3.3 per cent smaller than during the same months in 1939. Shipments of women's nylon full-fashioned hosiery for this September were 339,781 dozens with shipments of such hosiery for the first nine months of this year totaling 1,436,094. No comparison of such shipments of a year ago are possible because nylon was only introduced early in 1940. All branches of the hosiery industry show smaller shipments during the first nine months except anklets and athletic socks. Shipments of anklets during that time registered a gain of 7.7 per cent while shipments of athletic socks were 4.4 per cent greater. Another bright spot in the picture is men's slack socks in which shipments during this period showed a decline of only 0.6 per cent compared with the first nine months of last year, and in this connection it is interesting to note that several manufacturers of men's half-hose state that for the spring season they plan to devote an even larger percentage of their equipment to the production of such goods. A few of them have even stated that they will discontinue making the regular length half-hose, turning out nothing but the elastic top short half-hose. The nylon shipments for the first nine months of its production represented but 4.8 per cent of the total

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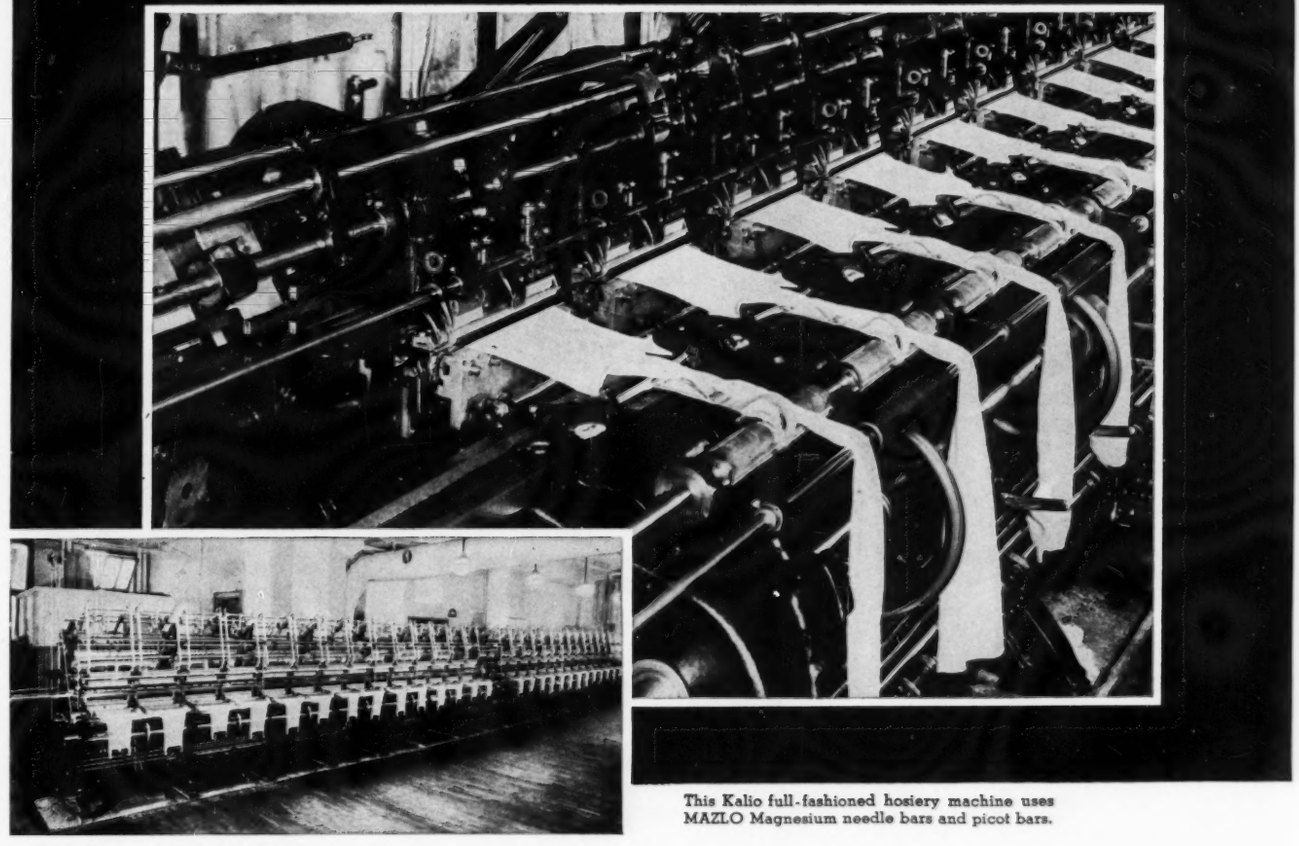

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shipments of women's full-fashioned hosiery for that time. The percentage, therefore, is running just about as had been predicted for the first months of the new hosiery. During September the distribution of women's full-fashioned hosiery by fiber content was all silk, 75 per cent; silk leg, cotton or rayon welt 15.3 per cent; nylon 8.7 per cent and other yarn and mixtures 1 per cent.

New Army Sweater Is Sleeveless Pullover

Specifications for a new type sweater to be used by the Army cover a pullover sleeveless garment of olive drab, Jersey knit. The sweater will be made with two-ply worsted yarns not lower than 50s grade. The body will be knitted with three ends of two-ply yarn with not less than six wales and ten courses per inch knitted circular without seams or may be cut and sewn and seamed on both sides from the arm hole to the bottom of the skirt. The skirt is to be knitted with three ends of two ply yarn in a 2x2 ribbed stitch having not less than five wales and ten courses per inch. The sweaters will be ordered in sizes 34 to 46 and the weight per dozen will range from 5 pounds for size 34 to 9 pounds for size 46.

Hosiery Manufacturers Meet in New York Jan. 9-10

To enable hosiery manufacturers to take advantage of the occasion presented by the gathering of buyers at the annual sessions of the National Retail Dry Goods Association, the National Association of Hosiery Manufacturers has announced the scheduling of the Hosiery Industry Conference for two days preceding the NRDGA convention week. The hosiery dates are January 9 and 10 with the conference to be held at the Waldorf-Astoria and speakers and topics will be announced shortly. Purpose of the meeting is to thrash out problems confronting the industry. In announcing the conference the association made note of one branch of the industry that apparently will have at least fewer selling problems—the half-hose mill group which since June 1 has received Government orders for more than 30,000,000 pairs for the Army, Navy and Marines of which slightly more than half is cotton.

Army Buying Large Amounts of Underwear

The underwear industry has been called upon to supply the largest amount of heavy part wool shirts and drawers for the Army so far required by the Government in its defense program. Manufacturers late in October submitted bids on 1,600,000 shirts and the same quantity of drawers. The underwear industry has met and more than met the requirements of the Army and the Government placed contracts for slightly more than the amount called for in the bid even though the time of delivery, namely 112 days, was considered short. In order to secure bids on larger amounts of such garments and from a larger number of manufacturers, bidders were permitted to use alternate methods of making the drawer band. The present specifications provide for what is known as the French type of waist band in which the waist band and lower part is in one piece. The alternates now provided permit the waist band to be made with a set-in piece or a lined waist band folded from one piece of fabric or formed from two pieces. The set-in piece alternate covers what is known in the trade as the split band type of drawer and is used regularly by some of the largest mills on their commercial garments. This finish now is available to manufacturers to use in their bidding for the Army.

An Eye on the Knitting Mills

Canadian Industries, Ltd., is the name of a new plant costing $1,500,000 which will manufacture nylon yarn. Location of the plant in Canada has not been announced. It is understood that the company will be owned jointly by Imperial Chemical Industries, Ltd., and the Du Pont company.

Kramer Brothers, New York City, distributors of hosiery, has established a mill at Philadelphia, which will begin operation in time for the spring season. The plant will be operated separately under the name of Trimfit Hosiery Mills, and will have a capacity of 4,000 dozens weekly.

Derby Underwear Company is erecting an $85,000 building at Bowling Green, Ky., known as the Bowling Green Industrial Foundation's building. When finished it is expected to house more than $100,000 worth of new machinery.

E. J. Williams of Villa Rica, Ga., has sold his interest in the Golden City Hosiery Mills at that place to C. M. Griffin, who has been co-owner since organization of the company 11 years ago.

H. Grady Miller of Hickory, N. C., and Cecil Perkins of Lynchburg, Va., have purchased the interests of Donald Hutton and George Hall, Jr., in the Hickory (N.C.) Dyeing and Winding Company.

Durham (N.C.) Hosiery Mills will re-open the No. 6 unit of the company. This unit manufactures cotton yarn and has been closed for two years. This move will give work to approximately 100 operatives.

Sarfert Hosiery Mills, Inc., Philadelphia, Pa., have leased space in a building at J. and Estaugh Streets, totaling about 20,000 square feet, and will occupy the quarters in an expansion program.

Morgan Mills, Rome, Ga., is the name of a new concern organized by R. A. Morgan and Gray Morgan; it will manufacture rubber elastic yarns for the knitting trade.

Gem Knitwear Company, Philadelphia, Pa., has added a new department for the manufacture of women's sweaters. The concern already manufactured men's and boys' sweaters.

Construction work has been started on a hosiery mill at Ellisville, Miss. It is being financed by a $30,000 bond issue and will be leased to Don Smith of Philadelphia.

The Caspe Knitwear, Inc., a new concern at Long Island City, N. Y., has been chartered with a capital of $20,000 to operate a knitting mill.

It is understood that Longmeadow Mills, Inc., manufacturers of hosiery, will resume operations. The mill closed in October.

Sheer Silk Hosiery Company, 2111 East 67th St., Chicago, Ill., has been incorporated by B. G. Sand and V. J. Carney.

Cherokee Hosiery Mill, Hickory, N. C., is expanding its plant. The new one-story addition will be 40x46 feet.

Norristown (Pa.) Silk Hosiery Mills is the name of a new company, authorized capital of $5,000.

American Cyanamid & Chemical Corporation will make an extensive expansion at the Charlotte, N. C., plant of the company. 16 acres of land adjacent to the present plant on Wilkinson Boulevard have been purchased, and it is expected that a 2-story building will be erected for the plant and another 2-story building for office headquarters of the parent company and the Calco Chemical Company, a division of the company.

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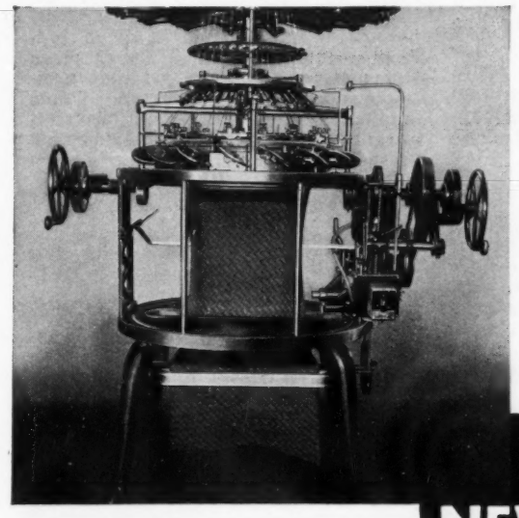

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TRENDS—YARN MARKETS

Sharp Advance in Cotton Yarns Continues with Spinners Well Sold Ahead—Wool Increase Brings About Higher Prices for Yarns and Goods but Knitting End Lags Behind Weaving Spurt—Silk Loses Its Recent Gain but Full-Fashioned Trade More Active—Rayon Yarns Active.

Philadelphia, November 16, 1940

HIGHLIGHTS of the yarn markets this month have been the continued sharp increases in prices of cotton yarns and the equally sharp cuts in price of raw silk. Wool yarns are strong and a shade higher but the changes are not great while rayon yarns are again unchanged. The latter yarns are very active and without any of the rearmament help that cotton and wool are receiving from the large amounts of such goods going into Army and Navy use. Cotton yarns have had a major price advance with single yarns not as strong as the ply but nevertheless registering advances over the month of a cent in carded and a couple of cents in single combed. The latter in 30s hit 36 cents this week compared with a 1940 low of around 29 to 30 cents so this is a major change in costs for knitters as is also the advance this year in 60s two-ply mercerized from the 1940 low of 61 cents to the present level of 70 cents.

Cotton Yarns

Sharp advances have been the rule this month in cotton yarns which has been brought about largely by a change in sentiment of a majority of the buyers who have changed from a conservative policy to one in which they are seeking to cover potential needs more and more into the future. As is usual when forward buying reaches out further and further ahead, speculation becomes more prominent. A considerable amount of the buying now being done is not because the yarn is actually needed but rather because buyers feel that prices will be higher next year so that they wish to protect themselves against this contingency and also because they are worried about obtaining all of the yarn they will require within the time specified in their goods contracts. One of the main reasons that this decided change in buyers' attitudes has come about is the large amount of cotton goods and garments being bought for the military forces.

The Army has been placing orders again this month for exceptionally large quantities of cotton fabrics requiring both carded and combed yarns and in single as well as ply. At the same time, very large amounts of knitted goods such as hosiery and underwear continue to be contracted for. In view of this there is very sharp competition for nearby deliveries between the Army and civilian trade. This has, in fact, reached such a stage that some feel in the not distant future the Government will step in and apply priorities for such deliveries when to be used in military cloths or garments. Up to the present time tightness of delivery has been much more apparent in the two-ply yarns and this has been reflected in a widening of differentials between single and ply so that at present there is as much as eight cents difference between the same count in single and ply combed.

As examples of the sharp advance over the last month 30s two-ply combed have jumped from 38 cents to 42 cents while 60s two-ply have jumped from 56 cents to 60 cents. In the single combed largely used by the knitters 30s have advanced from 34 cents to 36 cents with even greater increases being registered in the finer numbers. Carded cones have advanced from 22 cents quoted a month ago, basis 10s, to the present basis of 23 cents. Mercerized yarns due to the unusually firm situation in combed yarns have advanced 3 to 4 cents over the last month. The new list which went into effect late in October has 60s two-ply ungassed at 70 cents compared with a low this year of 63 cents and actual selling prices as low as 61 cents. Most knitters covered heavily at the low of the market or around 61 cents to 63 cents, basis 60s two-ply, so that the higher price level will not affect them for several months.

Silk

A little more than a month ago when there was a feeling in the United States that the Far Eastern situation would develop into active warfare, raw silk advanced sharply but as this belief shortly disappeared to a great degree all of this advance was lost. This meant that during the war scare raw silk advanced about 50 cents to the $3.00 level but later all of this increase was lost and the market now is back again close to the $2.50 level. There are several reasons for this easing in silk prices aside from the war. There are indications in Japan that the Government is taking steps to stabilize prices somewhere near their present level. In addition, raw silk consumption by the hosiery industry in the United States is off 17 per cent from a year ago. The industry for the first nine months of this year used 180,000 bales compared with 217,000 in the same months a year previous.

The decline for the full-fashioned division which is by far the largest user amounted to close to 16 per cent. This branch of the industry used 156,000 bales for the first three-quarters of the year which last year for this period consumed 186,000 bales. Consumption by the industry for October amounted to 39,877 bales, the highest monthly total since October 1939. September takings totaled 28,828 bales while the figure a year ago was 41,858 bales. Trade opinion gives as a reason for much of the falling off the natural let down following several record years of shipments of full-fashioned hosiery. At the same time the present year witnessed the introduction of nylon full-fashioned goods and although such shipments are small as yet they must be considered in this regard. Trade opinion at present is that no important advance in silk prices is in immediate prospect.

Rayon

Among the several branches of the textile industry rayon manufacture has benefited least from defense expenditures. Nevertheless production of rayon fibers register striking gains and sales of such yarns in recent weeks have been so heavy that stocks in the hands of producers amount to only one week's requirements. Rayon yarn shipments for the first ten months of this year totaled 320,100,000 pounds which was a gain of almost 8 per cent over the corresponding period of last year. Present plans for the industry call for increasing operating capacity from the current level of 395,000,000 pounds annually to 415,000,000 pounds by the middle of 1941 and 430,000,000 pounds in the spring of 1942. Producers report that tricot knitters are at present pressing for additional supplies and that the hosiery trade is experimenting with new types of rayon yarn for the entire stocking.

Worsted Yarns

Worsted yarns have been firm this month but price changes in the counts spun from medium grades of wool have not been as firm as those made from the finer types. The latter are meeting competition with the military buying whereas the Army and Navy have bought relatively little of lines made from quarter-blood wools. While knitting yarn spinners are considerably busier than a month ago the trend at present is for them to catch up on deliveries and for new business to drop off. Manufacturers in many cases would be willing to buy well into next year but they find spinners unwilling to figure with them as yet on this basis. Spinners say in this connection that such contracts for delivery very far ahead are only "insurance contracts" with manufacturers in many cases being slow to take delivery if the market declines.

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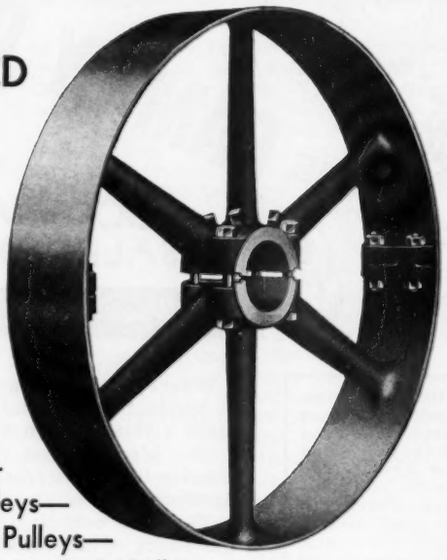

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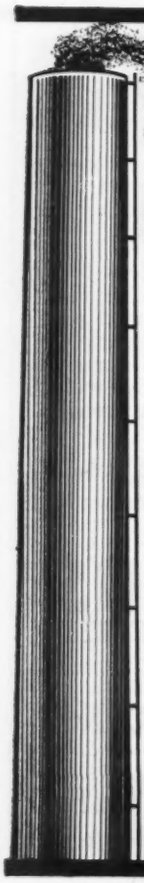

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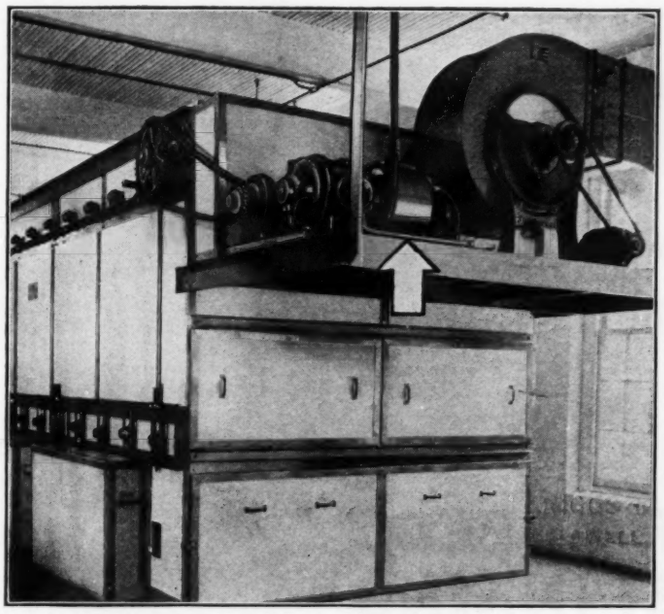

Accurate
SPEED CONTROL

• the "invisible" ingredient in textile quality

If every yard of cloth that goes through the mill were exactly the same texture and count—every day the same in temperature and humidity—textile machines would have very little need for speed adjustability. . . . But changes in work schedules and variations in conditions and materials demand that some provision for changing machine speeds be made. Otherwise, both quality and quantity of production suffer. . . . As on this Tenter and Dryer, manufactured by Riggs and Lombard, Inc., Lowell, Mass., REEVES accurate and infinitely variable speed control units are extensively used throughout the textile industry. Write for Catalog G-397, which illustrates and describes many process-improving, cost-cutting installations.

REEVES PULLEY COMPANY, Dept. *T,* **COLUMBUS, INDIANA**

REEVES accurate • positive **Speed Control**

TRANSMISSION provides infinite speed adjustability over wide range.

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VARI-SPEED MOTOR PULLEY, simple, direct drive from fractional to 15 H.P.; 3:1 range.

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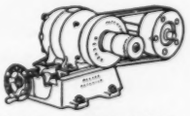
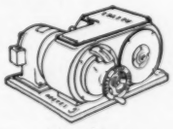
MOTODRIVE combines motor, speed varying mechanism and (where required) reduction gears.

Transmission



Vari-Speed Motor Pulley



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In textile specialties such as bobbins, shuttles, cones and spools, you want to be *sure* of proper action and unquestioned dependability.

U S products are made to live longer and to give faster, surer production. Try them and see for yourself.

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A Joyous Christmas and Prosperous New Year.

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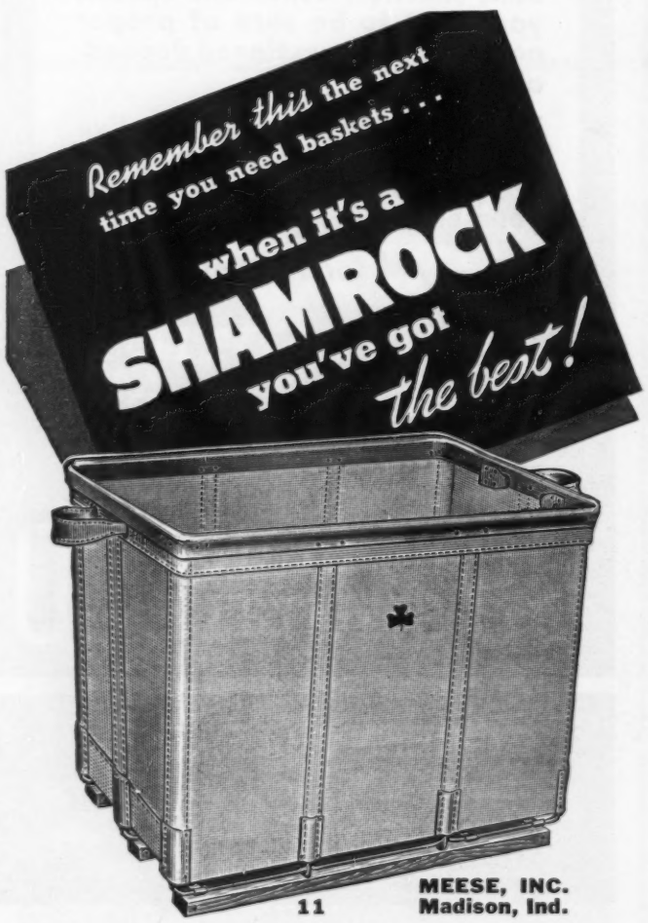

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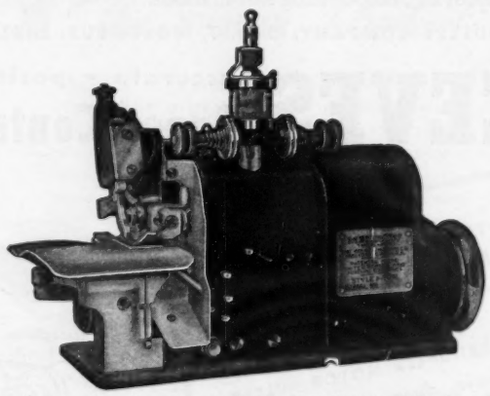

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a product of

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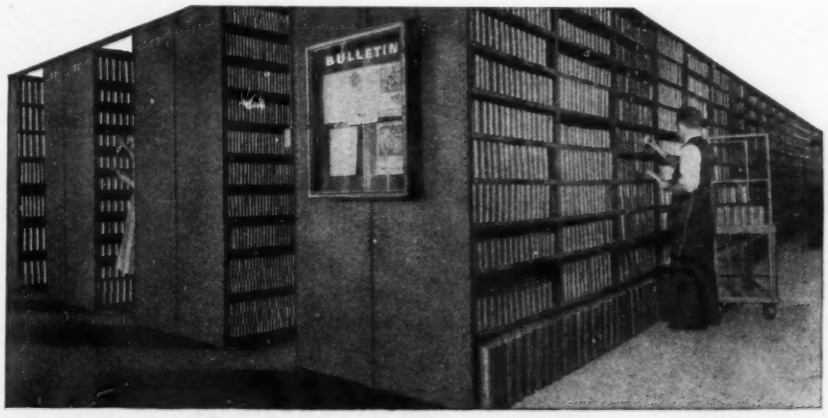
Southern Warehouse & Sales Office: C. L. SIMMONS, Mgr. SPARTANBURG, S. C.



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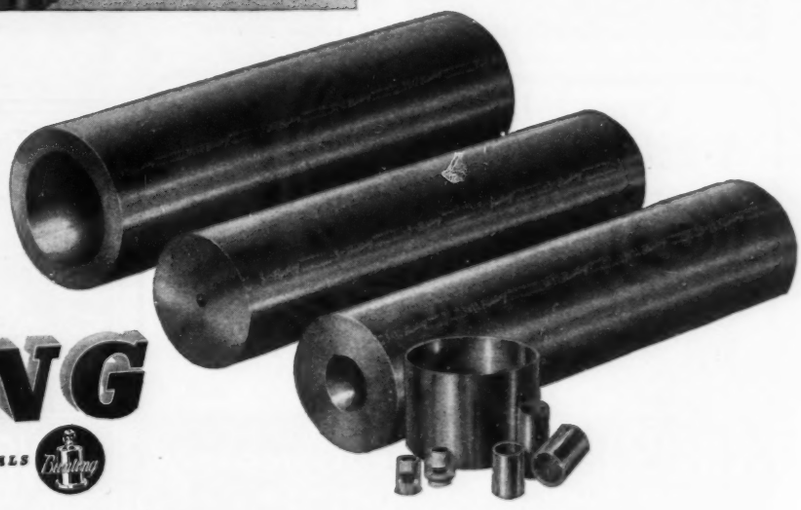

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If you are having the slightest spinning trouble, any of our representatives, who are men thoroughly experienced in this branch of the textile industry, are at your service at all times. A trial order will convince you of the superiority and durability of Dary Ring Travelers.

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MAPLE BIRCH

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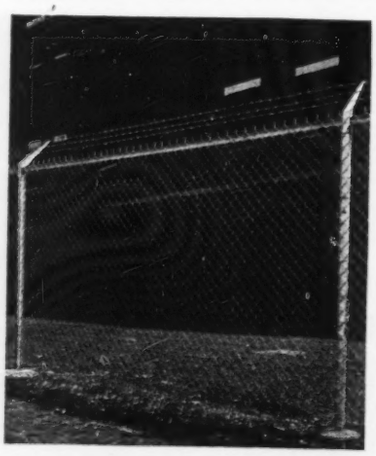

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discourages trespass and invasion

● In these days of uncertainty and unrest, nothing short of the ultimate in protection is good enough. Unfenced property usually invites trouble while a Stewart Non-Climbable Chain Link Wire Fence keeps trespassers, vandals and saboteurs at a safe distance. Stewart Chain Link Wire Fence, the heaviest and strongest manufactured, possesses many outstanding superiorities and assures a lifetime of dependable, unfailing, trouble-free service. Write for complete catalog and name of the Stewart representative in your vicinity. Sales and erection offices in principal cities.

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"World's Greatest Fence Builders Since 1886"

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Everything You Need In
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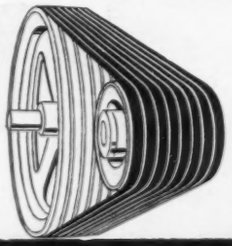

Complete service stocks for immediate delivery . . . Also leather and rubber belting, Rockwood Pivoted Bases and Paper Pulleys. Southern Engineers, with 50 years' experience in textile power transmission, can help you with your power drive problems.

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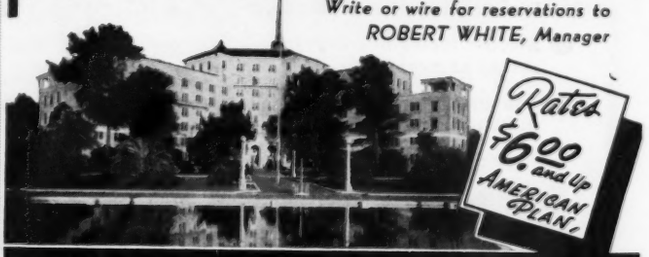

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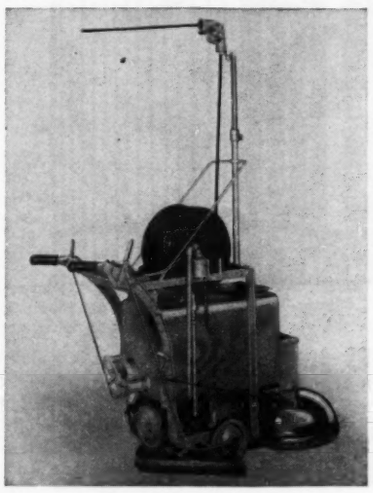

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Combination Scrubber and
Water Vacuum Pick-up

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Manufactured by S. C. Lawlor Co.
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It is not easy to get floors clean. Grease will stick. But the Lawlor Floor Machine really scrubs the floor clean. It gets the grease and dirt. And when it has scrubbed, it sucks up the dirty water by vacuum, leaving you with a floor that is safer to walk on—as well as clean and sanitary. Our engineers will gladly demonstrate, without obligation—and without interruption to production.

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Within this setting of elegance you will find unobtrusive service, executed to your requirements.

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ATLANTA BILTMORE

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an excellent conditioner and lubricant for use in troughs on full-fashioned machines—produces better knitting, even stitches, prevents sticking in preboarding.

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a thorough scour—removes size, grease and dirt, leaves hosiery clean, ready for dyebath.

3. *For Dyeing* . . . . . Laurezol #6
an active dispersing agent—increases penetration, aids production of level shades.

4. *For Finishing* . . . Laurel Peramel
superior, lasting finish—impregnates the fibers, straightens stitches, imparts smooth, desirable body, heightens snag resistance, and withstands repeated washings.

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Warehouses: Paterson, N. J. Chattanooga, Tenn. Charlotte, N. C.

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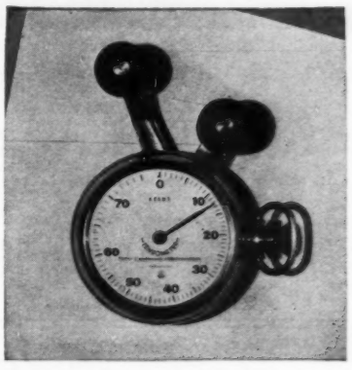

Enables your workers to avoid faulty tension in warping, winding, and quilling.

Why not reward your ambitious mill men with a tensometer for Christmas and start the New Year right eliminating guess work on tension?

Write at once for information.

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New England and Canadian Sales Representative
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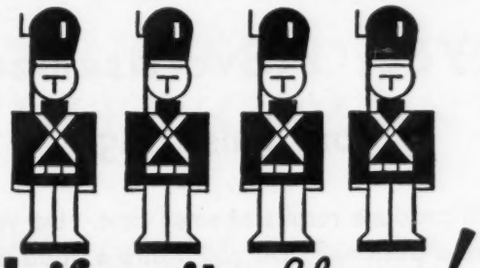

Uniformity *Always!*

—with Seyco Sizing

OTHER PRODUCTS
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Alkalis

("SI-CO")

Constant uniformity in quality and performance is guaranteed in every shipment of Seyco Sizing.

Its absolute dependability in this respect has earned for Seyco Sizing such consumer acceptance that the plant in which it is produced is now the largest and most modern of any specializing in warp sizing.

Seyco Sizing is packed for convenience in tight, rust-proof, non-absorbing steel drums, which can be stored indefinitely.

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"A company is known by the customers it keeps"

Seydel-Woolley & Co.
Textile Chemicals
748 Rice St., N.W. ATLANTA, GA.

Consulting Engineers TO THE **TEXTILE INDUSTRY**

for OVER THIRTY YEARS

★ OPERATING METHODS
★ MECHANICAL SURVEYS
★ COST METHODS
★ COST CONTROL
★ MODERNIZATION COUNSEL
★ SPECIAL PROBLEMS

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Graduate of Lowell Textile Institute 1923 in textile manufacturing, mill experience in jute, wool and rayon manufacturing plants; years of experience in sales service and direct sales of rayon yarns. Presently employed by firm whose new developments have been in fields other than textile and would like to change to yarn or machinery sales. Additional details and references to interested parties. Address Box 517, care COTTON, Grant Bldg., Atlanta, Ga.

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Cone Belt
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Air Hose
Water Hose
Steam Hose
Molded Rubber Goods
Oilless Bearings
Hard Rubber Pot Eyes
Rubber Covered Rolls

THE MANHATTAN RUBBER MANUFACTURING DIVISION
of Raybestos-Manhattan, Inc.
23 TOWNSEND STREET PASSAIC, NEW JERSEY

Your Advertisement on This Page

will produce results at small cost. Do you desire a position? Do you desire a good man to fill a vacancy in your mill? Do you desire your business or professional card placed before the textile industries?

Why not try an advertisement on this page of COTTON? Its 12,300 copies per month reach the textile executives, superintendents and heads of departments throughout the industry.

Note the rates above and send in your advertisement today.

COTTON
GRANT BLDG. ATLANTA, GA.

"The Roving Frame"

by Fay H. Martin

Every carder, frame fixer, section man, and superintendent will find "The Roving Frame," by Fay H. Martin, an instructive pamphlet. Mr. Martin, who has long written articles for "Cotton", clearly interprets draft, twist, lay, tension, pressure of the presser, hyperbola curve, the winding of the bobbin, reverse twist on the roving frame, roving frame cones, tensions and compounds so that the student or practical man will profit by his explanations. This is a reprint of 26 pages 8½ x 11 of a series of articles which were previously published in "Cotton," containing valuable information, illustrations, tables, charts and diagrams.

Fay H. Martin is a recognized authority on the roving frame. This book has been adopted by textile schools and vocational schools. Price per copy $1.00 (or it may be secured in conjunction with a 3-year subscription to "Cotton" for $2.50 (Canada $4.00—Foreign $5.50).

COTTON, Grant Bldg., ATLANTA, GA.

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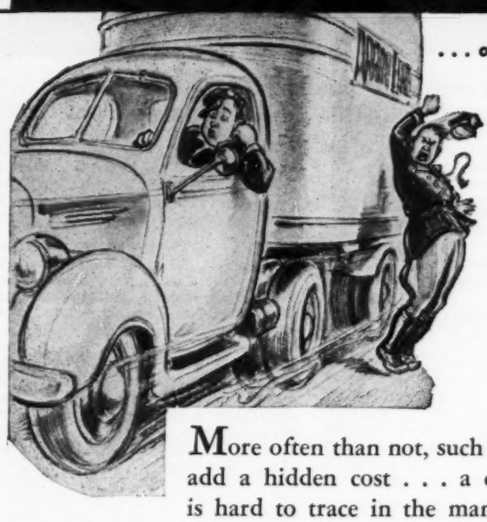

. . . of ordering your alkalies do not result in savings

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AN UP-TO-DATE PRINTING PLANT

equipped with modern machinery and a staff of competent workmen, solicits, thru this publication, a trial order on your printing needs.

We have built a reputation that is known over the entire South by our special attention to the minutest detail.

We are more than ready to answer any question that relates to your printing problems.

Write us and let us quote you on anything from a postal card to a fully bound book.

The A. J. Showalter Co.

Printers and Publishers

Dalton Georgia

more than 1000

STYLES and SIZES of RINGS

In addition to making all standard types of spinning and twister rings, we are the sole U. S. manufacturers of the famous Eadie Rings, which are World Champion high-speed rings for a wide range of twisting and spinning operations. For COMPREHENSIVE ring counsel and service, call on DIAMOND FINISH!

WE MAKE ALL TYPES OF HOLDERS

WHITINSVILLE (MASS.)

SPINNING DIAMOND FINISH **RING CO.**

Makers of Spinning and Twister Rings since 1873

Southern Representative H. ROSS BROCK, 3 Vannoy St., Greenville, S. C. Tel. 2824

KEEP YOUR EYE ON CUTTING COST

CAMACHINE 40-3L

FOR STRAIGHT AND BIAS BINDINGS

CAMERON MACHINE COMPANY

61 POPLAR ST. - - - - BROOKLYN, N. Y.

ADVERTISER'S INDEX

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A

Abington Textile Machinery Works 135
Abbott Machine Co. ..... *
Albany Felt Co. ..... *
Aldrich Machine Works 22
Allis-Chalmers Mfg. Co. 45
Aluminum Co. of America .... *
American Air Filter Co. 40
American Aniline Products, Inc. .....Inside Back Cover
American Cyanamid & Chem. Corp. ..... *
American Magnesium Corp. ..131
American Moistening Co. .... *
American Monorail Co. 148
American Yarn & Processing Co. ..... *
Arkansas Company, Inc. 18
Arguto Oilless Bearing Co. ...148
Armstrong Cork Co. 81
Arnold Hoffman & Co., Inc. .. *
Ashworth Bros., Inc. 32
Atlanta Envelope Co. ..... *
Audit Bureau of Circulations.. 48

B

Barber Colman Co. 95
Barkley Machine Works ..... *
Barnes Textile Associates, Inc. 143
Becco Sales Corp. 8
Benjamin Elec. Mfg. Co. ..... *
Bond Co., Chas. ..... *
Borne, Scrymser Co. 136
Boston Woven Hose & Rubber Co. .....28 and 29
Boyle Co., Inc., A. S. ..... *
Brinton Co., H. 133
Brown Instrument Co. 24
Bunting Brass & Bronze Co. ..139
Burkart-Schier Chemical Co...146
Butterworth & Sons Co., H. W. *

C

Cameron Machine Co. 145
Centrif-Air Mch. Co.,, Inc. .... *
Ciba Company 54
Classified Ads 144
Cleveland Tramrail Division .. 92
Clinton Co. 100
Cole Mfg. Co., R. D. 136
Colgate-Palmolive-Peet Co. ... 50
Commercial Factors Corp. .... *
Continental-Diamond Fibre Co. 139
Corn Products Sales Co. 91
Curtis & Marble Machine Co. .147

D

Darnell Corp., Ltd. 105
Dayton Rubber Mfg. Co. .... *
Dary Ring Traveler Co. 140
Detergent Products Corp. 135
Diamond Alkali Co. 56
Dixie Mercerizing Co. Front Cover
Dommerich & Co., L. F. ..... *
Dow Chemical Co. 44
Draper Corporation 1
Dronsfield Bros., Ltd. ..... *
Du Pont de Nemours & Co., Inc., E. I., Dyestufs Division 30
Du Pont de Nemours & Co., Inc., E. I. Fine Chemicals Division ..... *
Du Pont de Nemours & Co., Inc., E. I., Finishes Division 47
Du Pont de Nemours & Co., Inc., E. I., R. & H. Chemicals Dept. 10

E

Eaton, Paul B. 144
Economy Baler Co. ..... *
Ediphone Co. 103

F

Fafnir Bearing Co. 16
Fidelity Machine Co. 135
Finnell System, Inc. 148
Foster Machine Co. 46
Franklin Process Co. 17

G

Gates Rubber Co. 7
Gaylord Container Corp. 25
General Coal Co. 33
General Dyestuffs Corp. ..... *
General Electric Co. 37
General Electric Co. (Lamps) *
Gill Leather Company ..... *
Goldens Foundry & Mch. Co..136
Goodyear Tire & Rubber Co... *
Gulf Oil Corporation 31

H

H & B American Machine Co. 36
Hart Products Corp. ..... *
Henderson Foundry & Mch. Works 34
Hotel Atlanta Biltmore 142
Hotel Philadelphian 142
Hotel Savannah-Oglethorpe ...140
Houghton & Co., E. F. ..... *
Howard Bros. Mfg. Co. 26
Hunter Machine Co., James .. 13
Hyatt Bearings Division .... *

I

International Nickel Co., Inc. .....Inside Front Cover

J

Johnson Bronze Co. ..... *
Johnson Corporation ..... *

K

Kali Mfg. Co. 142
Kaumagraph Co. ..... *

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ADVERTISER'S INDEX

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Keever Starch Co. 141
Kempton Parts & Spring Co. .148

L

Lane & Bros., Inc., W. T. 146
Laurel Soap Mfg. Co. 143
Lawler Co., S. C. 141
Link Belt Company 19
Loper Co., Ralph E. 148
Lunkenheimer Co. 14

M

Manhattan Rubber Mfg. Co. Division 144
Maple Flooring Manufacturers Asso. ..... *
Marquette Metal Products Co. *
Mathieson Alkali Works, Inc.. 41
Meese, Inc. 138
Merrow Machine Co. 138
Morton Salt Co. 148

N

National Aniline & Chemical Co., Inc. ..... *
National Oil Products Co. ...105
National Ring Traveler Co. ..138
National Starch Products, Inc. 83
New Departure Division 6
New York & New Jersey Lubricant Co. 107
North, Inc., Frank G. 109

O

Old Dominion Box Co. 135
Onyx Oil & Chemical Co. 38

P

Pabst Sales Company ..... *
Parks-Cramer Co. 91
Pawtucket Spinning Ring Co.. 49
Penick & Ford, Ltd., Inc. ...147
Pennsylvania Salt Mfg. Co. ...110
Perkins & Sons, Inc., B. F. ...113
Proctor & Schwartz, Inc. 15
Protective Life Insurance Co.. *
Pure Oil Co. 148

R

Reeves Pulley Co. 137
Reliance Electric & Eng'g Co. *
Republic Steel Corp. ..... *
Rhoads & Sons, J. E. 12
Rice Dobby Chain Co. ..... *
Robbins Flooring Co. 140
Rochester Eng'g & Centrifugal Corp. 109
Rockwood Mfg. Co. 23
Rohm & Haas Co. 21
Roy & Son Co., B. S. 138
Royce Chemical Co. ..... *

S

Saco-Lowell Shops .....9 and 49
Scholler Bros., Inc. 133
Scott & Williams, Inc. 114
Selig Company 141
Seydel, Woolley & Co. 143
Showalter Printing Co., A. J...145
Singer Sewing Mch. Co. 43
Sipp-Eastwood Corp. 143
Sirrine & Co., J. E. 135
S. K. F. Industries, Inc. 89
Snap-On Tool Corp. ..... *
Socony-Vacuum Oil Co., Inc. .. *
Solvay Sales Corp. 145
Sonoco Products Co. 96
Southern Belting Co. 140
Staley Mfg. Co., A. E. ..... *
Standard-Coosa-Thatcher Co. ..119
Standard Oil Co., Inc., of Kentucky ..... *
Standard Pressed Steel Co. .. 42
Steel Heddle Mfg. Co. 87
Stein, Hall & Co., Inc. 35
Stewart Iron Works Co., Inc. .140
Sturtevant Co., B. F. 99

T

Taylor Instrument Companies . 4
Tennessee Eastman Corp. 39
Terrell Machine Co. 107
Texas Co. 2
Textile Finishing Mchry. Co. .. *
Textile Hall Corporation ..... *
Textile Industry Research ... *
Textile Machine Works 117
Thomas & Skinner Steel Products Co. ..... *
Tide-Water Associated Oil Co. 27
Torrington Co. .....123 and 124
Trust Company of Georgia ... 79

U

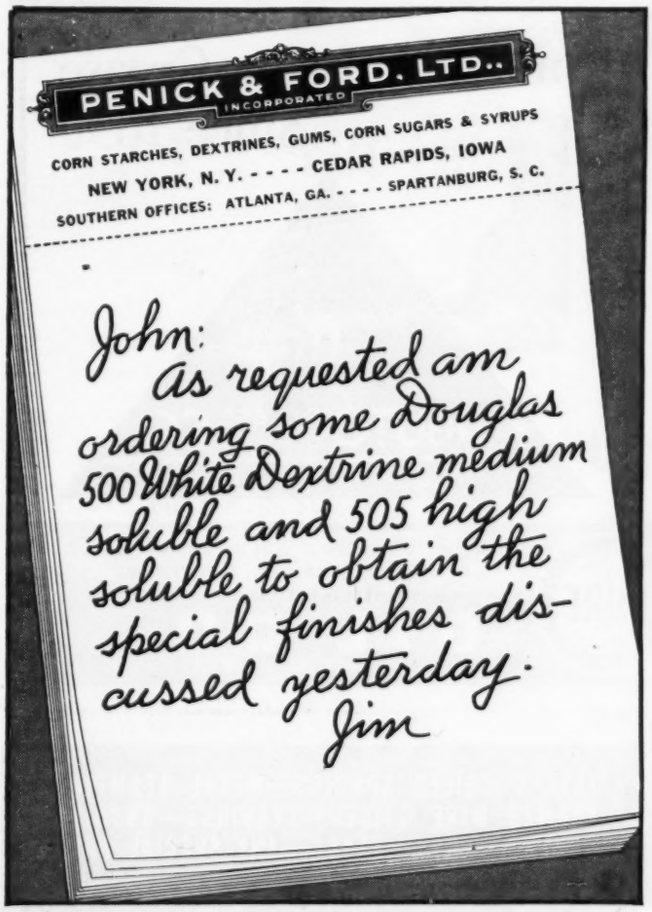
Union Special Machine Co. ... 85
Universal Winding Co. 11
United States Testing Co., Inc. 100
U S Bobbin & Shuttle Co. ...137
U. S. Ring Traveler Co. 20

V

Veeder-Root, Inc. .....Back Cover
Victor Ring Traveler Co. 148

W

Wallerstein Co., Inc. 148
Want Ads 144
Warner Chemical Co., ... 8
Westinghouse Electric & Mfg. Co. .....52 and 53
West Point Foundry & Mch. Co. 93
Whitin Machine Works 5
Whitinsville Spinning Ring Co. 145
Wildman Mfg. Co. 129
Willcox & Gibbs Sewing Mch. Co. ..... *
Wolf & Co., Jacques ..... *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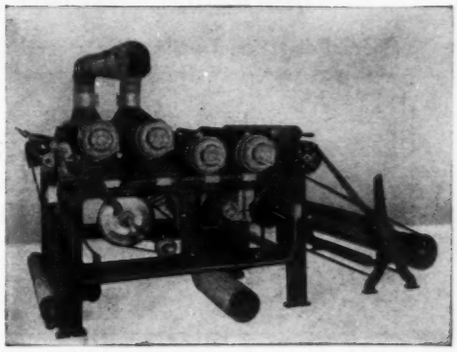

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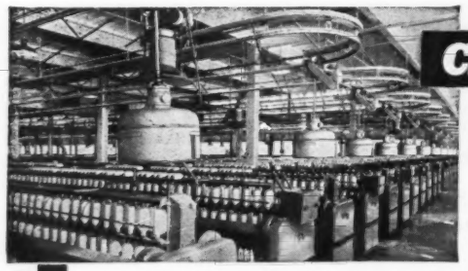

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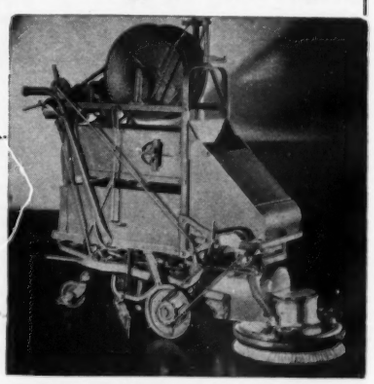

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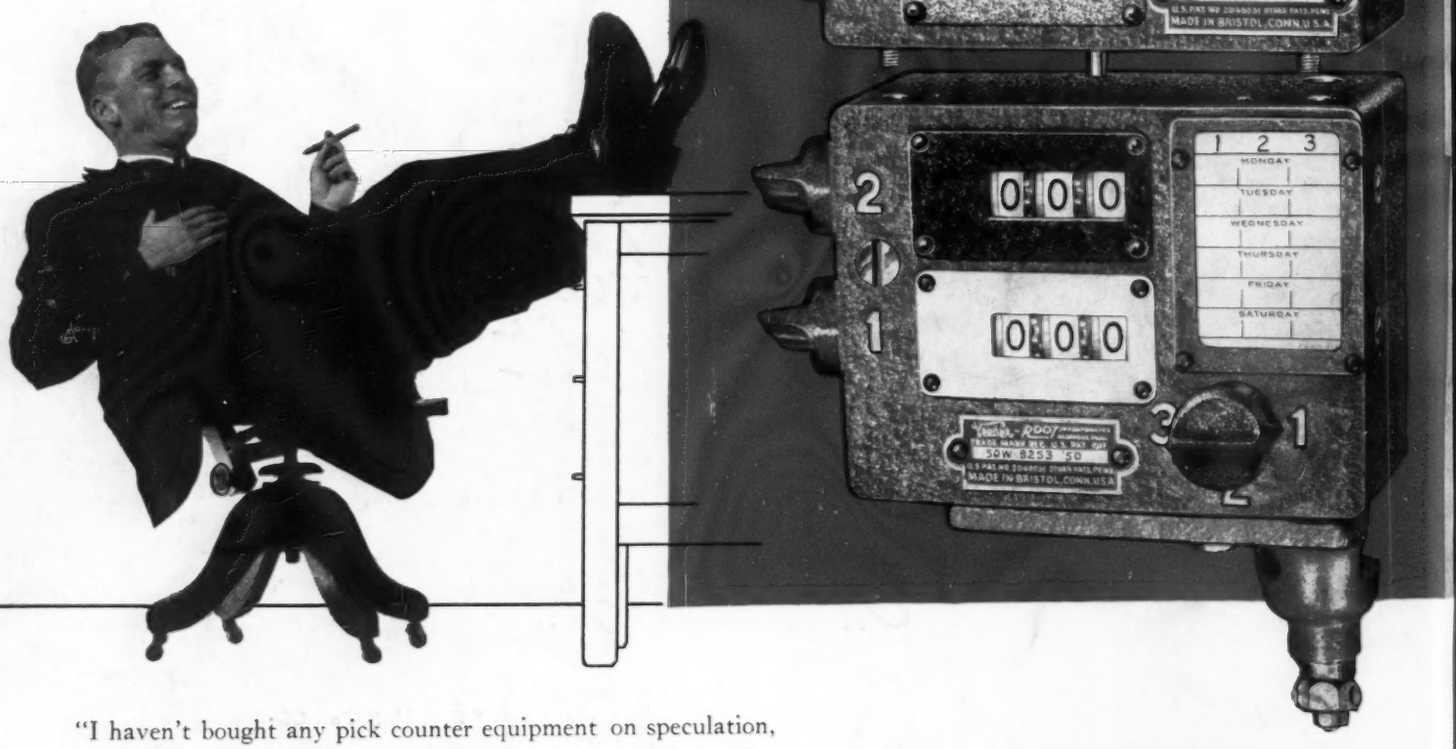

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